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THE STATUS OF UNITED STATES STRATEGIC FORCES

HEARING

BEFORE THE

SUBCOMMITTEE ON STRATEGIC FORCES

OF THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES

ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

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THE STATUS OF UNITED STATES STRATEGIC FORCES

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON STRATEGIC FORCES,
Washington, DC, Tuesday, March 16, 2010.

The subcommittee met, pursuant to call, at 10:12 a.m., in room 2118, Rayburn House Office Building, Hon. James Langevin (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. JAMES R. LANGEVIN, A REPRESENTATIVE FROM RHODE ISLAND, CHAIRMAN, SUBCOMMITTEE ON STRATEGIC FORCES

Mr. LANGEVIN. Good morning. This hearing of the Strategic Forces Subcommittee will now come to order.

The purpose of today's hearing is to examine the strategic posture of the United States and the status of our strategic forces, including our nuclear weapons, missile defense systems and military space programs.

These activities, which fall under the jurisdiction of the Strategic Forces Subcommittee, also track closely with responsibilities of U.S. Strategic Command, or STRATCOM. Thus, we are pleased that General Kevin Chilton, the commander of STRATCOM, agreed to appear before the subcommittee today.

Welcome, General Chilton.

General Chilton has testified before the subcommittee in the past, and we thank him for coming back here this morning.

Dr. James Miller, Principal Deputy Under Secretary of Defense for Policy, has also agreed to appear before the subcommittee today, and I would like to welcome him to the committee this morning as well.

Welcome.

Dr. Miller's presence is particularly timely given the release yesterday of the Interim Space Posture Review, the release of the Ballistic Missile Defense Review last month and the pending release of the Nuclear Posture Review (NPR).

Much has transpired in the realm of strategic forces and strategic policy since the subcommittee took testimony on these matters last March. On April 5th, 2009, President Obama delivered a comprehensive address on nuclear security in Prague in which he declared, "I state clearly and with conviction America's commitment to seek the peace and security of a world without nuclear weapons."

He went on to say, "As long as these weapons exist, the United States will maintain a safe, secure and effective arsenal to deter any adversary and guarantee that defense to our allies, including

the Czech Republic. But we will begin the work of reducing our arsenal."

On July 9th, President Obama and Russian President Medvedev issued a joint statement of understanding for establishing a follow-on to the Strategic Arms Reduction (START) Treaty that included targets for the number of accountable warheads and launchers under a new agreement.

Last summer, in response to the increasing challenges we face in protecting our computers and networks from intrusion, Secretary Gates announced his intention to create U.S. Cyber Command, or CYBERCOM, as a subordinate unified command under STRATCOM.

On September 17th, President Obama announced his plan for strengthening missile defenses in Europe through a Phased, Adaptive Approach (PAA) deploying defenses against the threat of Iranian ballistic missiles.

Just a week later, the President revealed that the Iranians had been building a covert uranium facility near Qom for several years now.

In December, the START Treaty expired and Presidents Obama and Medvedev issued a joint statement saying that the two nations would continue to work together in the spirit of the START Treaty following its expiration.

At the same time, the two presidents also expressed "their firm intention to ensure that the new treaty on strategic arms enter into force at the earliest possible date."

However, while the two presidents talked about this issue last Saturday, the New START Treaty has yet to be completed. The press reports suggest that it has been delayed by the complex technical details involving data exchanges and verification as well as the complicated political details related to missile defenses.

On January 12th, 2010, China announced the successful test of a ground-based mid-range missile interceptor. This technology demonstration has implications not only for Chinese missile defense but also for the safety of space systems in low Earth orbit.

On February 1st, the Department of Defense released the first Ballistic Missile Defense Review along with the President's fiscal year 2011 budget. Notably, the Department did not release either the Nuclear Posture Review or the Space Posture Review, both of which were required to be released on that date as well.

Now, the Department has informed the Congress that the NPR will be delayed until March 1st and that the Space Posture Review would not appear until later this summer.

Yet at the same—at the time, we were promised the early submission of the preliminary Space Posture Review and were also—and so we are pleased that the Interim Space Review was, in fact, released yesterday.

However, the Nuclear Posture Review still has not been submitted and appears to be delayed, if we can believe press reports, by the President's deliberations on a few key issues, including U.S. declaratory policy; specifically, for what purposes might the use—might we use nuclear weapons and whether and how many forward deployed weapons in Europe and Asia are needed for extended deterrence.

Well, this morning we certainly look forward to hearing our witnesses' perspective on the events of the past year and the progress we have made toward addressing the key challenges that we face.

As the witnesses are well aware, the subcommittee has had a long record of seeking bipartisan approaches to the complicated challenges that we face in the strategic arena. Through this hearing, we hope to continue these critical discussions so that we may together chart the right strategic path forward for the United States.

So therefore, we look forward to your testimony here today and your help in making progress toward that goal.

So before, though, turning to our witnesses, let me ask at this time for my partner in this effort, our ranking member, Mike Turner, for any comments that he may have.

Mr. Turner.

[The prepared statement of Mr. Langevin can be found in the Appendix on page 45.]

STATEMENT OF HON. MICHAEL TURNER, A REPRESENTATIVE FROM OHIO, RANKING MEMBER, SUBCOMMITTEE ON STRATEGIC FORCES

Mr. TURNER. Thank you, Mr. Chairman.

I would also like to extend a warm welcome to General Chilton and Dr. Miller and thank you both for your leadership and for your service to our Nation.

Today's hearing comes amid considerable change in our strategic forces policy and posture. We anticipate the delivery of a Nuclear Posture Review, NPR, within the coming weeks that may significantly alter U.S. nuclear policy.

According to reports, the U.S. and Russia are near completion on a new Strategic Arms Reduction Treaty, START. We have seen major changes in missile defense policy, including plans for missile defense in Europe. And later this year, we expect to see a new national space policy and Space Posture Review.

Meanwhile, we continue to witness disturbing trends in foreign strategic forces developments. Of particular concern, Iran and North Korea continue very public nuclear and ballistic missile programs.

China is preparing to field a next-generation maneuvering ballistic missile and continues to develop counterspace capabilities.

Russia possesses an overwhelming arsenal of tactical nuclear weapons and continues to modernize its strategic nuclear forces.

I would like to highlight today a few concerns that I hope our witnesses will address here. First, let me start with U.S. nuclear policy. The President seeks "a world without nuclear weapons." I think we all share this long-term vision.

But as French President Nicolas Sarkozy said last fall, "We live in a real world, not a virtual one." The bipartisan Strategic Commission similarly observed that it "would require a fundamental transformation of the world political order." Our national security policies must reflect this reality. To do otherwise would be irresponsible.

It is, therefore, deeply concerning when Administration officials and press reports suggest that our nuclear policy will center on

zero as the policy goal; that the NPR will reduce the role and number of nuclear weapons, starting with U.S. declaratory policy; and that another round of arms control talks will commence after START to further reduce our nuclear forces.

It is unclear what changes in the threat or security environment are driving such deep reductions. What is the strategic rationale behind this policy?

Do we expect others like North Korea, Iran, Pakistan, Russia and China to give up their nuclear arms once the U.S. reduces theirs?

Will allies who benefit from U.S. extended deterrence commitments feel equally assured when the U.S. reduces its nuclear deterrent and offers conventional forces as a substitute? I hope our witnesses here today can address these fundamental questions.

I was pleased to see a 13 percent increase in this year's budget request for the National Nuclear Security Administration's weapon and nonproliferation activities.

It appears that the Administration has embraced the Stockpile Management Program established by this committee last year and will fund more comprehensive life extension programs, warhead safety and security enhancements, and infrastructure modernization.

However, a commitment to the sustainment and modernization of our Nation's deterrence capabilities cannot be measured with a single year's budget request. As we all know, strategy, programs and budgets are derived from policy.

Though we are seeing a one-year influx of funding, I am concerned that a zero policy might lead to less program and budget support in the out-years. Will it alter STRATCOM's ability to effectively deter potential adversaries and lead to greater risk in our strategic posture?

Second, while there is bipartisan support in Congress for European missile defense, that support is contingent upon a clear and detailed understanding of the Administration's plans, which we have not seen. Ranking Member McKeon and I wrote the President last week asking for such details.

The Phased, Adaptive Approach for Europe and the new regional missile defense architectures outlined in the Ballistic Missile Defense Review, BMDR, have significant force structure and inventory implications.

However, without a detailed understanding of these plans, it is difficult to assess whether the budget is sufficient. One thing is clear: demand exceeds supply.

How will STRATCOM manage these limited assets, particularly Aegis ships? Will an increase in missile defense assets for Europe result in less protection for other theaters?

I want to commend the Department on the BMDR and restoration of some missile defense funding. It is a welcome indication that the Administration took note of the concerns of many of us that a top-line increase was necessary to sustain our homeland missile defense capabilities, to fund the new approach for Europe and expand missile defense inventories.

I do worry, however, that we are giving up on some promising technologies while rushing to pursue others. The Airborne Infrared

(ABIR), Precision Tracing Space System (PTSS) and SM–3 Block IIB are interesting concepts but still unproven technologies.

Meanwhile, the Airborne Laser recently demonstrated a successful missile shoot-down. Yet the budget request barely keeps it going to support further development of directed energy technologies.

Third, I would appreciate our witnesses' thoughts on space and cyberspace. I am particularly concerned about the health of our space industrial base and what it portends for the future of our national space enterprise.

For example, NASA's recent termination of the Constellation Program will leave DOD to carry the full cost of the solid and liquid rocket engine supplier base, which could lead to the doubling of program budgets in the out-years.

Much of the aerospace workforce is nearing retirement. Young engineering and technical talent won't stick around to build more of the same, nor should we want them to.

If our Nation is to retain its leadership in space and defense technology, then we need a strategic, long-term, interagency approach that encourages innovation, invests in cutting-edge science and technology, and fosters new design and development activities that can transition into mature programs of record.

Any thoughts that you can share on how the Department is tackling these strategic challenges would be appreciated, as well as your thoughts on export control reform.

Lastly, if one assumes that our strategic forces capabilities are interrelated, if there is a link between offensive and defensive capabilities, then logic would say that we should increase our missile defenses as our nuclear forces decrease and prevent any limitations on those capabilities.

Such was the intent of Congress last year when we stated that U.S. missile defense must not be limited in the START follow-on treaty with Russia. I want to reemphasize that point today.

General Chilton, Dr. Miller, thank you again for being with us today. You each possess a tremendous amount of expertise and insight on our Nation's strategic forces, and our Nation is better off as a result of your service. I look forward to your testimony.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Turner can be found in the Appendix on page 48.]

Dr. MILLER. Mr. Chairman, Mr. Turner——

Mr. LANGEVIN. Before we begin the testimony, if we could, I just want to mention—and welcome members of the Armed Services Committee that do not serve on the subcommittee but who are in attendance at the hearing: Representative Bishop of Utah and Representative Fleming of Louisiana. I want to thank them both for joining us this morning.

And without objection, once each of the members has had the chance to ask questions, you will, in turn, be able to ask questions.

But at this time, I believe we are going to turn now to General Chilton to begin the testimony. Is that what we agreed upon?

Voice. [Off mike.]

Mr. LANGEVIN. Fair enough.

Dr. Miller, then the floor is yours.

STATEMENT OF DR. JAMES MILLER, PRINCIPAL DEPUTY UNDER SECRETARY OF DEFENSE FOR POLICY, U.S. DEPARTMENT OF DEFENSE

Dr. MILLER. Thank you, sir. Mr. Chairman, Mr. Turner, members of the subcommittee, Representatives Bishop and Fleming, I very much appreciate the opportunity to testify today on behalf of the Department of Defense on strategic issues. And I also want to thank the committee for its strong support for the Nation's strategic capabilities.

It is a pleasure to join General Chilton in discussing these issues related to nuclear weapons, missile defense. I will say a little bit about combating weapons of mass destruction (WMD) as well, as well as space and cyberspace.

It would be difficult to overstate the importance of these issues to the Nation. And each of these has been the topic of in-depth study in the Department of Defense over the last year. And indeed, some of that study, as was noted, is still ongoing.

In February, in addition to delivering the Ballistic Missile Defense Report to Congress, the Department of Defense provided the Quadrennial Defense Review report, which emphasized the importance of both combating WMD and improving our capabilities in cyberspace and outlined some important steps that the Nation needs to take to improve capabilities there.

As the chairman noted, DOD, working with the Office of the Director for National Intelligence, recently submitted an interim report on the Space Posture Review, and we continue to work on a national security space strategy that we intend to submit to Congress this summer.

And as was noted, working closely with the Departments of State and Energy, as well as with the National Security Council, we are nearing completion of the Nuclear Posture Review, and I do expect that we will submit a report to Congress within a month.

Mr. Chairman, you asked me to address in particular nuclear issues, missile defenses and space, and I would like to say just a few words about each, and I will be brief in this oral statement.

The Nuclear Posture Review will be a foundational document for this Administration. It is intended to be a practical work plan for the agenda laid out by President Obama in his April 2009 Prague speech.

It will provide concrete steps to reduce the role and number of nuclear weapons with the ultimate goal—of a world free of nuclear weapons while sustaining, as the President said in his speech—as long as nuclear weapons exist, sustaining a safe, secure and effective nuclear arsenal.

One of its key aims will be to strengthen deterrence and to strengthen assurance of allies and partners, and the report will outline a number of specific steps to do so.

As mandated by Congress, the report will also address U.S. arms control objectives, and the NPR in particular has focused on the ongoing New START negotiations.

One of the review's early conclusions was that the United States should retain a nuclear triad under a New START Treaty comprised of intercontinental ballistic missiles, land-based; submarine-launched ballistic missiles; and nuclear-capable heavy bombers,

and the fiscal year 2011 budget submitted to Congress reflected this conclusion.

Ballistic missile threats, as noted by Mr. Turner, are growing both in quantity and in quality, and we expect this trend to continue over the next decade or more.

The Department's first-ever Ballistic Missile Defense Review aims to align U.S. missile defense posture with near-term regional missile threats while sustaining and enhancing our ability to defend the homeland against a limited long-range attack.

Broadly, our goal is to ensure an effective defense of the homeland against limited missile attacks while creating an environment in which the development, acquisition, deployment and use of ballistic missiles by regional adversaries is deterred and, if necessary, defeated. Strengthening international cooperation with key allies and partners in Europe, East Asia and the Middle East is critical to achieving that goal.

And as was noted, the President announced in September 2009 that the Administration would pursue a Phased, Adaptive Approach to U.S. missile defenses in Europe, and I am very pleased that we have had robust cooperation with our European allies for that effort.

I just want to note a couple of those. As you know, Poland committed last year to host a land-based site for the Standard Missile-3 or Aegis Ashore which would be deployed by 2018.

Recently, Romania agreed to host an Aegis Ashore site starting in 2015.

And the Czech Republic continues to have a strong interest in missile defenses, and we are discussing how they may be involved in the new architecture.

At the same time, we are continuing discussions with our North Atlantic Treaty Organization (NATO) allies about making territorial missile defense a NATO mission and about next steps to develop and deploy improved capabilities.

The Administration was clear from the outset about our intent to move forward with both a northern site and a southern site in Europe for Standard Missile-3, for Aegis Ashore, and have worked to build broad support in NATO for this mission. At the same time, I want to say today that things went much faster than expected, with Romania in particular.

I understand the interest of Congress in these issues, as does the Department of Defense, and want to say quite plainly that the DOD recognizes the need to consult more effectively with Congress going forward.

Finally, as discussed in the interim report of the Space Posture Review, the space environment is increasingly congested, competitive and contested. And to deal with these challenges, the Administration is currently revising its national space policy.

This ongoing national-level policy review will seek to synchronize the broad U.S. equities in space, and it will span national security, science and commerce issues.

Building from this revised national space policy, the Department of Defense and the Director of National Intelligence are working now to develop a national security space strategy.

We aim to complete this effort in June and then address its implications for export control and investment in various types of capabilities with an aim to principally affect fiscal year 2012 budgets and forward.

Our objective is to align the appropriate ends, ways and means to help the Nation succeed in what is increasingly a congested, competitive and contested space environment, and we do look forward to reporting back to the subcommittee and to Congress on these and other strategic issues.

I have a more detailed written statement which I would ask to be submitted for the record. And with that, I will look forward to joining General Chilton in answering your questions. Thank you.

[The prepared statement of Dr. Miller can be found in the Appendix on page 53.]

Mr. LANGEVIN. Very good. Thank you, Dr. Miller, for your testimony.

General Chilton, the floor is yours.

STATEMENT OF GEN. KEVIN P. CHILTON, USAF, COMMANDER, U.S. STRATEGIC COMMAND

General CHILTON. Thank you. Chairman Langevin and Ranking Member Turner, members of the subcommittee, it is a pleasure to join you again this year and have this opportunity to testify before you.

And it is also a particular pleasure to join Dr. Miller here in this session, having worked so closely with him over the past year.

I am privileged to showcase STRATCOM, which I am so privileged to command, these joint teams of achievements, discuss our requirements and highlight future national security challenges across our diverse and global mission areas.

U.S. Strategic Command's active duty and Reserve military members and civilians and contractors form a superb joint team whose dedicated planning, advocacy and operational execution efforts advance our warfighting priorities every day.

We continue to strengthen and sharpen our focus on deterrence while at the same time focusing on preserving our freedom of action in both space and cyberspace.

In all of these efforts, we greatly appreciate the support of the members of Congress and your staff whose legislative investments across our mission areas enable us to deliver global security for America.

Over the past year, we have actively supported the Administration's four major defense policy reviews which uniquely impacted U.S. Strategic Command, to include the Quadrennial Defense Review, the Nuclear Posture Review, the Ballistic Missile Defense Review and now the Space Posture Review. We also provided analytical and intellectual capital to the New Strategic Arms Reduction Treaty, or START, negotiations.

While not all yet completed, these reviews will shape the role of our strategic capabilities and define the investments necessary to recapitalize and sustain them for the future.

Their focus areas also highlight U.S. Strategic Command's—also highlight the emphasis that we put on—and the participation we are a part of as the nexus of today's national security challenges.

Global security in general and the United States in specific face a myriad of challenges today from expected and unexpected corners of the globe, by way of economic and political turmoil, non-traditional threats to include terrorism, and continuing overseas contingency operations.

Actors continue to seek the means to challenge the U.S. and our allies not only in conventional but also in asymmetric fashion.

U.S. Strategic Command remains committed to conducting deterrent, space and cyberspace operations and advocating for the capabilities our national leadership and geographic combatant commanders need each and every day in the areas of missile defense; information operations; intelligence, surveillance and reconnaissance (ISR); and combating weapons of mass destruction.

In the deterrence arena, our energetic exercise program conducted this past year, called Global Thunder 2009, was highly successful and was, indeed, the most extensive nuclear command and control and communications field exercise in over a decade.

Our forces' success proved America's well-placed confidence in USSTRATCOM's strategic deterrent and demonstrated the success of this Command's effort to reemphasize a culture of excellence across the nuclear enterprise.

In space, our acceptance of the Space Situational Awareness sharing mission expanded the Command's relationship with international and commercial partners toward ensuring a safe and responsibly managed space domain.

Future Space Situational Awareness efforts and space investments must continue to build on recent advances, including advances made in greater and more frequent conjunction or collision analysis to ensure the availability of essential space-based capabilities.

Moreover, the Department of Defense sustained its progress in defending DOD information networks by unifying U.S. Strategic Command's components for network warfare and global network operations by increasing the training for our cyber professionals and welcoming the standup of each of the services' cyber components.

We carefully planned this past year for the standup of U.S. Cyberspace Command and look forward to the confirmation of its first commander.

Additionally, in the past year, we dramatically expanded our military-to-military outreach program and were honored to host such leaders as United Kingdom's First Sea Lord Admiral Sir Mark Stanhope, Australia's Vice Chief of the Defense Force Lieutenant General David Hurley, France's Chief of the Defense Staff General Jean-Louis Georgelin, and the Vice Chairman of China's Central Military Commission General Xu Caihou.

All of these meetings and discussions centered around strategic deterrence, space, cyberspace, and missile defense, and all advanced the dialogue between these countries and the United States Strategic Command.

Although not contained within the DOD budget, I would like to mention my support for the Administration's fiscal year 2011 request for the National Nuclear Security Administration. The budg-

et seeks a nearly 13 percent increase for NNSA, designed to provide much-needed infrastructure and human capital investments.

I have long advocated for such critical investments, which will help keep our stockpile safe, secure and effective for future generations. Our deterrence credibility rests on such confidence, and I appreciate you and your colleagues' support for this request.

In the year ahead, U.S. Strategic Command will address the challenges I mentioned above as we focus on further developing our workforce, sustaining a culture of excellence in the nuclear enterprise, and integrating our global mission sets.

U.S. Strategic Command's uniquely global missions support national objectives, whole-of-government solutions, and enhanced international cooperation.

Our future success requires investment in the deterrent, the standup of U.S. Cyberspace Command, and both expanding our awareness and sustaining our capability investments within the space domain.

As we move forward, I look forward to continuing to partner with this committee and your staff. And again, thank you for the opportunity to be with you here today, and I also ask that my posture statement be submitted for the record.

Thank you, Mr. Chairman.

[The prepared statement of General Chilton can be found in the Appendix on page 67.]

Mr. LANGEVIN. Thank you, General Chilton.

Thank you both for your testimony. Before we go to questions, just for our guests in the audience, let me just read a bit of the interesting bios of both of our witnesses here today.

Dr. Miller was confirmed by the U.S. Senate as the Principal Deputy Under Secretary of Defense for Policy on April 2nd, 2009, and he serves as the principal staff assistant to the Under Secretary of Defense for Policy and provides advice and assistance to the Secretary of Defense and Deputy Secretary of Defense on all matters concerning the formulation of national security and defense policy and the integration and oversight of DOD policy and plans to achieve national security objectives.

Prior to his confirmation, Dr. Miller, served as the Senior Vice President and Director of Studies at the Center for a New American Security.

Previous positions—including serving as Senior Vice President and Vice President at Hicks & Associates Incorporated; Deputy Assistant Secretary of Defense for Requirements, Plans and Counterproliferation Policy; assistant professor at Duke University; and senior Professional Staff Member for the House Armed Services Committee from 1988 to 1992—a little plug there for the Armed Services Committee work you have done.

Dr. MILLER. Sir, you saved the best for last. Thank you.

Mr. LANGEVIN. Absolutely.

General Kevin Chilton is Commander, U.S. Strategic Command, Offutt Air Force Base, Nebraska. He is responsible for the global command and control of the U.S. Strategic Forces to meet decisive national security objectives.

USSTRATCOM provides a broad range of strategic capabilities and options for the President and Secretary of Defense. Command

mission areas include full-spectrum global strike, space operations, computer network operations, Department of Defense information operations, strategic warning, integrated missile defense, global command operations, strategic warning, integrated missile defense—again, global command, control, communications, computers, intelligence, surveillance and reconnaissance, the combating of weapons of mass destruction, and specialized expertise to the joint war fighter.

General Chilton is a distinguished graduate of the U.S. Air Force Academy, class of 1976, a Guggenheim fellow. He completed a Master of Science degree in mechanical engineering at Columbia University. He flew operational assignments in the RF–4C and F–15 as a graduate of the U.S. Air Force Test Pilot School.

General Chilton conducted weapons testing in various models of the F–4 and F–15 prior to joining the National Aeronautics and Space Administration (NASA) in 1987. At NASA he flew on three space shuttle missions and served as the Deputy Program Manager for Operations in the International Space Station program.

Quite a bio, General.

So thank you again. Welcome to you both.

I would like to turn now to questions. It is my intention to do two rounds of questions and so we will stick to the five-minute rule.

Dr. Miller, if I could, I would like to start with you. Last September, President Obama announced his plan for strengthening missile defenses in Europe through a Phased, Adaptive Approach to deploying defenses in Europe. The PAA, as it is called, supplanted the previous administration's plans for 10 ground-based interceptors (GBIs) in Poland and the X–Band Radar in the Czech Republic.

Now, I am assuming that the Administration performed a rigorous analysis of alternatives for addressing the evolving Iranian threat and protecting U.S. interests before the decision was announced. I would assume that—again, being that the case—if so, when can we expect the Department to share this analysis with the Congress?

Dr. MILLER. Sir, yes, that is correct. The Department conducted a quite extensive analysis of the threat from Iran and potentially others to the European theater, and considering also the possible contribution of any architecture to the defense of the United States homeland as well.

I believe we have shared a good amount of that analysis with the Congress. And I know that the Government Accountability Office (GAO) is currently doing a review of the decision-making that led up to that. And as part of that, we will be releasing information associated with the analysis and the decision-making process.

Mr. LANGEVIN. Okay. So it is a formal report that you will be able to release to the Congress that details the analysis?

Dr. MILLER. Sir, we are currently in discussions with GAO about which parts of the decision—which parts of the—what was a very lengthy decision-making and analytical process—should be released and we are committed to providing the information necessary for Congress to understand that decision.

Mr. LANGEVIN. Okay. Well, I clearly think that would be helpful to the members of the committee and to the Congress in giving greater confidence to the—again, the plan itself and the need to supplant the previous administration's previous plans on missile defense for Europe.

So we would look forward to that analysis.

Dr. MILLER. Sir, I could say in open session right now that there is no question that Iran in particular has significant and increasing capabilities for short-, medium-range and beginning to develop intermediate-range capabilities.

And a fundamental part of the assessment was to recognize that 10 interceptors were likely to be woefully inadequate for coping with the scale of the type of attack that Iran could mount today, let alone in the future.

And so the ability to adapt the system, to bring it online earlier, which we can with Aegis ships, and to be able to adapt it over time with a more flexible architecture was really fundamental to the decision-making.

I will also say we looked at the question of the contribution of the Phased, Adaptive Approach and the previous architecture to national missile defense, and both of them—both of the architectures shared an important feature, which is an early deployment of an X-Band Radar that will give us an early look on any attack coming—that could come from Iran toward the United States.

The plan under the Phased, Adaptive Approach is to deploy that in 2011, which is earlier than previously planned, so we moved that forward to look to improve the capabilities of our ground-based interceptors.

And in addition, we looked at the tradeoff between adding the same type of interceptor in Europe that we have in the United States, a two-stage versus a three-stage, but fundamentally the same interceptor, versus going for a different type of phenomenology with ascent-phase intercept, which we aim to provide in Phase Four.

And so the analysis—again, we have—I think we have briefed it, but we can certainly share more about it. But the analysis, to my mind, suggested very strongly that moving assets there earlier to deal with today's threat and with the possible future intercontinental ballistic missile (ICBM) threat—possible future, but the 2011 deployment gets us earlier capability.

And moving toward a different way of engaging that threat through ascent-phase was going to contribute more, both to our theater-based defenses and to our national defense. And happy to follow up with more details, sir.

Mr. LANGEVIN. That detail would be very much welcome.

If I could, continuing on on this topic, it was announced that—more recently it was announced—and you have mentioned—you touched on it this morning—that the Romanian government has agreed to base missile defense interceptors, the so-called Aegis Ashore system, on its soil as early as 2015 as part of the second phase of the PAA.

Could you describe to the committee, or provide it for the record if it is classified, the defended footprint of the SM–3 Block IB mis-

sile system that will be deployed in Romania and the threats from Iran and the Aegis Ashore system it will defend against?

Dr. MILLER. Sir, I would like to provide that for the record, if I can, and provide it in a closed session. We would be happy to provide maps showing the estimated footprint for the system for each of the four phases of the Phased, Adaptive Approach.

[The information referred to can be found in the Appendix beginning on page 95.]

Mr. LANGEVIN. Good enough. We would welcome that.

Then let me also, then, ask could you also describe any discussions with NATO that preceded the announcement of an agreement with Romania?

Can you assure this committee that the U.S. will, in fact, work with our allies to ensure that we meet NATO's objectives as adopted by the North Atlantic Council in April 2009 that "any future missile defense system deployed in Europe should be part of a comprehensive approach that addresses the most likely threats on a prioritized basis"?

Dr. MILLER. Sir, yes. We had multiple briefings with our NATO allies prior to the meeting with Romania. As I said, that particular meeting resulted in a conclusion more quickly than many had expected.

But those meetings included briefings to the North Atlantic Council by the Under Secretary of Defense for Policy, by the Assistant Secretary for Global Strategic Affairs. I briefed on the progress on the Nuclear Posture Review and made mention of it, but didn't go into the same detail as they did.

And I also believe the Secretary engaged with our NATO allies on these issues as well during that period.

Mr. LANGEVIN. Okay. Thank you, Dr. Miller.

Let me, if I could, just turn my final set of questions for this round to General Chilton.

General, last summer Secretary Gates announced his intention to stand up U.S. Cyber Command as a subordinate unified command under STRATCOM. Secretary Gates made it clear that CYBERCOM would be the focal point for cybersecurity operations within the Department.

More recently, the standup has been delayed, as we all know, by the fact that the designated commander has not yet been confirmed by the Senate.

General, would you update the committee on STRATCOM's progress toward establishing Cyber Command? And can you explain also STRATCOM's role, if any, in the National Cyber Initiative?

General CHILTON. Sure, happy to, Chairman. Last year when the Secretary made the decision to stand up a sub-unified command under U.S. Strategic Command, the other thing he asked for is an implementation plan.

And over the months of 2009 we worked very closely with the STRATCOM headquarters, with Office of the Secretary of Defense (OSD), as well as with our two components, the Joint Task Force for Global Network Operations (JTFGNO) and the Joint Functional Component Command for Net Warfare to pull together an implementation plan for the standup of this new command.

We delivered that to the Secretary in the fall of last year. He has reviewed it and made adjustments to it, and we think we have complied with those. But we are holding off on the signing and moving forward on the plan until we do have a commander assigned for this command.

I was pleased to see that General Alexander received his advance policy questions to address back to the Senate and so I am hopeful that an opportunity for him to testify and have a hearing will soon arise on the calendar. And then, once we have a commander, it will be time to put the implementation plan into action.

I don't want to suggest, though, that we have been standing static in this mission area at all. We continue to robustly operate the Joint Task Force for Network Ops and Network Warfare.

We put JTFGNO under the operational command direction of the Network Warfare Command, so we have already started to unify those two mission areas, which I think is exactly the right way to provide for a better defense for our military networks, which we are chartered to do, and as well as more secure operations.

So I am anxious to move forward in this area. I think it is the right thing to do. And I think we will be in a much better position to both operate and defend and be prepared to conduct military operations in cyberspace in the future as we stand up the subordinate command of U.S. CYBERCOM.

Mr. LANGEVIN. And the National Cyber Initiative?

General CHILTON. I am sorry, sir. In the National Cybersecurity Initiative, the United States Strategic Command benefitted from investments in certain technologies that I believe will help us to do defense in a more real-time fashion, rather than waiting until we know our computers are infected, and then doing the forensics to figure out the malware and then working our way backward up the threat, to actually have some real-time—more real-time detection systems employed that will allow us to look for threats coming into the networks and head them off before they get to our computers.

So that type of technology is part of the investment portfolio in the National Cybersecurity Initiative which will support us.

Additionally, there is a good portion of that initiative that supports National Security Agency (NSA), and NSA is one of our key intelligence providers for this particular domain. We rely on intelligence from all intelligence agencies, from the National Geospatial-Intelligence Agency, from Defense Intelligence Agency, Central Intelligence Agency, *et cetera.*

But NSA particularly is supportive in this area, and so plus-ups to their ability to do their mission set also benefits United States Strategic Command as well as the Department of Homeland Security.

Mr. LANGEVIN. Are the network defenses primarily designed by NSA and given to STRATCOM, or is STRATCOM actually involved with designing those defenses?

General CHILTON. A lot of the technology comes to us through contracts through NSA, but also Defense Information Systems Agency (DISA). You know, DISA is important to us, too, because they design and build the networks. And so as much as you can design and build in capability for ease of operation and defense, that is important as well.

So they are really—DISA is a major trainer and equipper, if you will, of the networks which we operate, and so their part in that is equally important.

Of course, we have no acquisition authority and we do not exercise that. We are about requirements and demanding the things we need to conduct our mission sets.

Mr. LANGEVIN. Good enough.

Then my last question before I turn to the ranking member, for both our witnesses, what do you see as the key issues still outstanding in the cybersecurity arena?

Dr. MILLER. Late last summer, the Secretary of Defense asked us to bring together a comprehensive approach for the Department of Defense in dealing with cybersecurity, and we have begun to do that, working closely with STRATCOM and with others.

And quite frankly, there is a significant list of issues that we need to deal with. It starts with thinking through the problem from the perspective of strategy.

We have begun to do that within the Department, understanding that we need to plug into the national effort that is now under way to develop a new cybersecurity strategy, and the Department of Defense is supporting that effort.

We are looking at the importance of personnel, of highly trained, educated, talented personnel and whether the personnel models that we have as a department and within the services are appropriate for recruiting and retaining the types of people that will be successful.

We are asking a question of how to accelerate the pace of innovation both in the concepts we apply to cybersecurity and in the technologies we use.

We would like to—you know, we are dealing with the challenge of Moore's Law and with the rapidly changing technology and the—frankly, the rapid innovation of people who may try to get into our networks.

We need to continue to think about how to accelerate the pace of technical change and present more of a moving target, if you will, to people who might get into our networks.

And finally, we need—we are looking hard at what types of cooperation make sense, what we can do to build on the work we already do with the private sector and with other agencies and, for that matter, internationally as well. We have begun to reach out to some key allies and talk about their thinking and capabilities on cybersecurity.

Mr. LANGEVIN. Very good. Thank you, Dr. Miller.

General.

General CHILTON. And I would just add that kind of looking at it from the deck plate up, the things that we have been focusing on in U.S. Strategic Command over the last year and a half is—we call them the Three Cs: culture, conduct and capability.

Trying to change the general culture of the way we look at our networks in the military—it is not just—when there is a problem with a computer, it is not just a technical—or technician's problem, it is the commander's problem.

It should be the focus of every commander in the field, the health and status of their networks, just as they are focused on the health

and status of their people, their tanks, their airplanes, their ships, because the networks are so critical.

So changing that cultural mindset is really important. Changing the way we conduct ourselves, providing the appropriate training for all of our members in the military who touch our networks—each one of them is really a gate guard to the networks based on their behavior on their computer.

So changing their conduct, training them and then holding people accountable for their behavior on the network is important.

Operationalizing this domain such that we treat it like other domains with operational concepts and orders that allow us to be postured to readily protect and defend the networks I think are also absolutely essential, and we are working that problem hard.

And I have already mentioned the capability piece about technologies that can help us better defend our networks.

But also, I think in addition to what I mentioned before, the development, as we have asked for, in the space domain of a common operating picture, situational awareness that we can provide our commanders so they can see the health and status of the network real-time, they can see attacks developing against those networks, then take appropriate action, and then making sure we are sharing that information as widely as possible not only within the military but with the Department of Homeland Security.

So these are some of the capability areas, too, that we will continue to press for and look to advance in the future.

Mr. LANGEVIN. Very good.

Well, thank you both. Obviously, the cybersecurity area is a dynamic one and one—a threat that is ever-evolving. It seems the challenge is to stay one step ahead of our adversaries, or the bad guys, if you will.

And we have our—obviously, our work cut out for us. But thank you for your work that you are doing in that area. I am going to continue to—this is a particular area of interest to me that I will continue to spend a great deal of time on and oversight.

I am also fortunate to have Congresswoman Sanchez here, who chairs the Terrorism, Unconventional Threats and Capabilities Subcommittee. I know it is an issue of great importance to her as well as to many other members.

But with that, let me turn now to the ranking member for his questions.

And thank you very much, gentlemen.

Mr. TURNER. Thank you, Mr. Chairman.

I appreciate the chairman's questions. In fact, I am going to be following up with you, in effect, on the questions that he asked.

Dr. Miller, when the announcement was made for the abandonment of the ground-based interceptors in Europe, many in Congress were concerned because it was our understanding that it was not a threat-based decision. As you indicated in your comments, our ballistic missile threat is increasing, not decreasing.

There is no information that anyone has provided to Congress that would show that the threat from Iran is diminishing. Nothing has changed in our understanding of their intent and their programs or their current technical capabilities.

And the chair asked you when is Congress going to receive the information upon which the decision was based in looking at the threat from Iran, and you gave an answer that I think we need to clarify.

You said we are currently deciding what to release. And I doubt that you are sitting in front of us telling us that you are considering whether or not you give the information to Congress that Congress is asking, because as you know, when the Administration makes a decision and we ask for the information upon which it is based, it is the Administration's responsibility to provide it.

So perhaps you could embellish what that answer is in the context of the chairman's question of when can we see the information upon which the decision was based to abandon those ground-based interceptors, which many of us believe are essential to protect the United States?

Dr. MILLER. Sir, yes, your summary of what my intent was is correct. There were, I don't know, scores to, perhaps, more than that, briefings developed by the staff. There is a lot of analytical work that was completed by both the OSD staff, joint staff working with STRATCOM and Missile Defense Agency.

There are reams and reams of documents. And quite frankly, I don't think it—I don't think it makes sense—I wouldn't want to go back through all of them, and what we want to do is identify the most important milestone documents in the process that identify where an assessment was made and, particularly, where senior leadership was engaged.

And we are looking to do that so that Congress can see what the basis of the decision was.

Mr. TURNER. I appreciate that answer. And I know from many in Congress, and including the members of this committee, we are very eager for that process to be completed so that we can review it, because again, all the information—in fact, all the testimony that we have had in other hearings—has confirmed that the threat is not diminishing from Iran.

And so how that can be correlated to a decision to diminish our missile defense capability is where we are concerned.

To another question that the chair asked, he asked about Romania, and I know a number of us have concerns about a unilateral action on part of the Administration in working with Romania, as opposed a NATO-ization of a missile defense system.

Because you know there was significant criticism of the last administration for their approach with Poland and the Czech Republic. The criticisms were that the bilateral discussions were bypassing NATO and were preventing, really, a NATO-ization of a missile defense system.

So we were all surprised when Romania was approached, when we know that there has not yet been a NATO-ization. Now, you answered the chair that there were a number of briefings with NATO when he asked NATO's involvement.

But I am going to ask you the next step of that. It is my understanding that the selection of Romania was not done in conjunction with a process with NATO in determining the strategic positioning and the needed assets for a joint U.S.-NATO system, that this is

the Administration that decided the approach to this with Romania and informed NATO. Is my characterization correct?

Dr. MILLER. Sir, the Administration briefed NATO on the overall architecture and the requirement in that architecture for both a land-based site in southern Europe as well as a land-based site in northern Europe.

There were several options for each of those that would ultimately provide the possibility for a territorial—complete territorial—defense of European countries and NATO.

It turned out that Poland was one in the north and, as I think we have testified before, the priority was given to reaching out to the Poles because of their earlier and continued commitment to missile defense. It turned out to be that Slupsk, the location we are likely to go to, is a good location.

With respect to Romania, there were several countries as well that were possible options, and the United States made that clear—the Administration made that clear in our discussion with allies.

It was always going to be necessary to conduct bilateral negotiations with the hosting country rather than to try to "NATO-ize" that process, in order to reach closure on that.

But certainly, our allies were aware of the range of possibilities with respect to both the southern side and the northern side.

And I would also add that in considering the missile threat and how it relates to the Phased, Adaptive Approach, I believe the Phased, Adaptive Approach was based on a recognition that the missile threat was both more urgent because it is here today and because the United States needs to begin to—needs to think about how to protect our forces that are deployed and our capabilities to operate, as well, and a recognition that it is growing and we need to have the adaptability to modify the system.

A key downside of the former architecture is with 10 GBIs and two-for-one targeting SRVs, five missile shots and you are out of it. And there is no more capability to be provided. Phased, Adaptive Approach is intended to address that challenge.

Mr. TURNER. Okay, a couple things. One, you know, obviously, the concern with respect to NATO-ization is that, you know, our goal to increase our relationships internationally, to increase our relationships with our allies, and to the extent that they are not brought to the table, obviously, there is a communication of value that I think could be enhanced if they are more at the table versus informed.

With respect to the interceptors, you know, obviously, a concern that we have with the Phased, Adaptive Approach is that many of the systems that are identified by the Administration in it are paper systems—they don't currently exist—and that the ground-based interceptors that were intended for Poland—although you indicate their limitation in number, they truly exist—would have existed and would have been something that is available to us, which takes us to the Phased, Adaptive Approach.

And that is that your evaluative statements, your review of the Phased, Adaptive Approach and what its benefits are, is something that Congress really isn't able to do right now because we don't

have from the Administration the Phased, Adaptive Approach briefings, information, for us to be able to evaluate.

We can't evaluate it based on its effectiveness and compared to other systems or even, too, whether or not the Administration is living up to its obligations in funding the types of systems and research and development that will be necessary to take what is not only unproven systems but non-existent systems to deployable systems.

When will Congress be able to receive the Phased, Adaptive Approach and be able to review it?

Dr. MILLER. Sir, I had the opportunity to brief this committee shortly after the announcement and in that did include some maps that showed estimates of coverage. The reality is that these are estimates and that the details of the architecture will—in terms of the location of the systems—change those.

So the ones that I showed to this committee—would have been, I guess, last September—will look a little bit different. They will still have about the same coverage. They will—complete within the later phases the territorial coverage of Europe.

Sir, I offered to come back and provide that briefing in a closed session, if we could, at the convenience of the committee.

Mr. TURNER. Okay, great, because what we are looking for is not just how the system might work. We want what systems you are actually proposing. What are the timelines? What is the development? What systems are going to have to be purchased and acquired? What, of the systems that don't currently exist, are there milestones that will have to be achieved in order for it to be deployable or to bring it into existence? You know, we certainly have seen, I think almost everybody on the committee, the zone or scope of where these type of systems might provide coverage, but certainly, we are looking for more than just that. Dr. Miller, I hope that you can provide it.

One more question and, General Chilton, I am going to pass to you for my second round since we have so many people here, and I want to defer and make certain everyone gets to ask a question.

But, Dr. Miller, I don't want to leave our discussion without talking about your reference to the President's Prague speech and the—I think in your comments you referred to it as a 'goal' of going to zero. I have heard it referred to as a 'policy' of going to zero.

And I am very concerned about that as it goes to—and I believe your comments were how it is translated into policy to affect the role and numbers of our nuclear weapons.

Now, I mean, let me tell you, I was a mayor of a community. And as a mayor of a community, I look out at the community and assess a threat, crime, and look to putting together a plan to address that threat, crime.

My desire for there not to be crime in my community did not result in me strategically reducing my police force. I wouldn't have attacked crime by saying I am going to reduce my deterrence to crime. In fact, I increased police. And we saw a decrease in crime.

Now, we know that the threat of nuclear weapons is actually increasing by the number of countries that are both seeking and/or possessing nuclear weapons technology. That threat does not appear to be decreasing.

So I am very concerned as we try to translate what perhaps should be a stated dream into an actual goal or policy that affects both the role and numbers of our strategic deterrent, instead of it merely just being, you know, something that we are advocating for on the national—on the international stage, we are actually looking to our national policy and changing, as you said, the role and numbers of our weapons.

Could you speak to that issue a moment and how that balance can keep us safe?

Dr. MILLER. Yes, sir. I will start by noting again that in the President's April Prague speech he suggested the elimination of nuclear weapons as a long-term goal and noted that it might not occur within our lifetimes, that it, indeed, is extremely challenging to imagine the situation in which elimination of nuclear weapons is possible. It is clearly not possible today.

And the President also said at Prague that as long as nuclear weapons exist, the United States would retain a safe, secure and effective nuclear arsenal to deter threats against ourselves and our allies.

You see in the fiscal year 2011 budget and our plans that follow it a commitment to that, a sustainment to a triad with respect to our strategic forces and, as General Chilton and the chairman noted, a 13 percent increase in overall funding for NNSA to sustain our nuclear weapons infrastructure and enterprise.

So understanding that it is a long-term objective, the United States, in my view, ought to continue to sustain both its deterrent and the infrastructure required to support that over time. And in fact, that has been translated into policy.

With respect to the goal of zero nuclear weapons, it is a goal that almost every president in the past has embraced, including Ronald Reagan. It is, I think, generally understood to be something that is not on the near-term horizon but something that can help guide us as we go forward.

The United States has an obligation under the Nuclear Non-Proliferation Treaty to pursue nuclear disarmament. Again, it is difficult to foresee the timeline under which that could be possible. But to look to reduce the role and numbers of nuclear weapons over time, as consistent with not just maintaining but strengthening our deterrence posture is, in my view, a very reasonable policy goal and one that this Nation can and should pursue.

Mr. TURNER. Thank you, Dr. Miller.

I will save my questions for General Chilton if we are doing a second round, since there are so many people who have questions.

Mr. LANGEVIN. Very good.

I thank the ranking member for his questions.

We will be now operating under the five-minute rule, and I am pleased to turn to Mr. Spratt for a round of questions.

Mr. SPRATT. Thank you both for your testimony.

Dr. Miller, I wasn't sure he was going to reach the crucial points in your past when he was outlining your curriculum vitae, and your training here surely has propelled you into the position you now hold. You don't need to reply to that. [Laughter.]

Dr. MILLER. Sir, I would just say the four years I spent here were 10 of the best years of my life.

Mr. SPRATT. [Off mike.]

Dr. MILLER. I learned a tremendous amount. Thank you.

Mr. SPRATT. You made a tremendous contribution here, and we are pleased to see you where you are, because we know what your potential is.

Tactical nukes—we haven't discussed them very much, but we have discussed the greatest concern we have, and that is that nuclear terrorists would get nuclear weapons of some kind in their hands, and the likeliest weapon that they would be able to lay their hands upon and also utilize would be tactical nuclear weapons.

The arms control talks have largely focused upon the big systems that do constitute a daily threat to us, and there are lots of issues with respect to tactical nukes—are they stored adequately? How many? Do we have a have a good inventory of them?

To what extent are we taking steps with the Russians to make this the forefront of our negotiations, because they do constitute, in my opinion, a significant part of the non-state terrorist threat today?

General CHILTON. And if I could first talk about the——

Mr. SPRATT. Please, yes, sir.

General CHILTON [continuing]. The accountability of them, we do have excellent—perfect accountability of our nuclear weapons today, sir, and——

Mr. SPRATT. How about the——

General CHILTON [continuing]. And security for our weapons. We don't have the insight into the Russian stockpile——

Mr. SPRATT. Yes.

General CHILTON [continuing]. Of tactical weapons that we would like to see.

Mr. SPRATT. There have been anecdotal accounts of these weapons in insecure locations throughout the former Soviet Union. Is there any effort on your part—are you engaged at all in the process of trying to get a better, more rigorous count of their nuclear—their tactical nuclear weapons and where they may be located?

Dr. MILLER. Yes, sir. As you know, since the collapse of the Soviet Union, Russia has moved its tactical weapons in general back more towards the interior of the country. It has improved the security associated with those weapons and reduced them relatively significantly.

Our judgment would be that there is a good distance to go both with respect to reductions and security, and that is a—that has been a point of discussion, as you know, over the—in fact, over the years with Russia.

Mr. SPRATT. Is this an agenda item with respect to START?

Dr. MILLER. Sir, it is not an item within the START negotiations.

Mr. SPRATT. Is it anywhere a formal item of discussion or is it something we just deal with *ad hoc* from time to time?

Dr. MILLER. It is something that has been a focus of the Cooperative Threat Reduction Program, and it is an issue with respect to negotiations where, post-START, we would like to look towards reductions.

But as you know, we have been engaged in discussions of nuclear security, really, for the last almost two decades with Russia.

Mr. SPRATT. Dr. Miller, when you were here on the staff, the Ballistic Missile Defense Program included something I think then was called Space-Based Infrared System (SBIRS) Low and SBIRS High.

And it has gone through several permutations since those days, but it is still not a deployed system. In fact, it has taken on a different configuration. It is a space surveillance system today, I believe. But clearly, if it works as intended and is designed, it enhances missile defense.

Could you give us an update on where the latest rendition of SBIRS lies?

General CHILTON. Right, sir, I can take that. The——

Mr. SPRATT. Yes, sir.

General CHILTON [continuing]. SBIRS High program, which is being managed by the United States Air Force—its latest schedule for first launch of the geosynchronous satellite, which will replace our Defense Support Program constellation, is scheduled for the end of this year.

And that will be a welcome first launch of this capability. Today we have in the highly elliptical orbits already airborne the sensors—two of the sensors that will be part of the geosynchronous belt as well. They are performing exceptionally well, so that is a good news story. But we look forward to that first launch of the SBIRS High geosynchronous.

SBIRS Low, as you pointed out, sir, has changed names and moved from the Air Force into the Missile Defense Agency as an experimental program. There is two satellites—Satellite Tracking Surveillance System they are called now. They are not for space surveillance.

They are, as you described, infrared satellites to support missile defense-type operations. And they are going through their test and checkout now to see the utility of them for potential future architectures in support of missile defense.

Mr. SPRATT. Thank you very much.

I have a couple more questions, but my time has expired. I will come back on the next round.

Thank you.

Mr. LANGEVIN. I thank the gentleman.

The chair now recognizes Mr. Franks for five minutes.

Mr. FRANKS. Well, thank you, Mr. Chairman.

And thank both of you for being here.

You know, General, I never want to miss the opportunity to say a special word of thanks to people such as yourself that have given their lives to this cause. Because you do your job so well, a lot of the rest of us don't have to worry like we perhaps should on an issue of this kind of gravity.

Let me, if I could, add my voice to both the ranking member and the chairman related to the missile defense issue in Europe.

I think Mr. Spratt pointed out a point that I have made on a number of occasions here, that my greatest concern for at least the immediate short-term, and what—I mean in the next year or two or three—threat to this country is terrorists gaining control or access to a nuclear capability. And he is exactly right, a tactical nuke is probably the thing that is most likely.

But it seems that sometimes we forget the connection. My concern—and I hope that it will be part of your report to us, Dr. Miller—what rationale went into the concern of trying to work ourselves into Iran's calculus as to whether or not to actually become a nuclear nation.

I think their intent is clear, but they have a great many concerns out there. Israel, our own response—there is a lot of things that speak against them moving forward here. But one of those things would have been the ability to have met that threat the day that it became operational.

And a lot of us are very happy with the idea of having additional Phased, Adaptive Approach capability, but we are concerned about not having the ground-based system in Europe in time to be a part of Iran's calculus, because I think that by the time we have the ability to truly do what the ground-based system would—will be able to do, they will already become a nuclear-armed nation.

And I think that all other issues at that point might have to fall off the table. So that is just a commercial. I hope that that will be part of the information that we receive.

General Chilton, in your testimony last year before this committee you said, "Within the nuclear enterprise, the U.S. stockpile requires the most urgent attention. Without action, our current weapons are not indefinitely sustainable. We mitigate that risk today along with the risk from an inability to respond through strategic surprise only by maintaining more weapons than we would otherwise need."

And I think you were absolutely right. We do need to do that. But in light of the current Administration negotiating with Russians on the follow-up to START, which may significantly reduce our nuclear stockpile, a significant reduction in our inventory concerns me, particularly if it doesn't accommodate to concerns that you raised in your testimony last year.

So what types of programs and what type of support would be required to sustain or maintain our stockpile, in your mind, as a professional, in your judgment, that would maintain those—meet those concerns without abandoning the approach of maintaining more weapons than we would "otherwise need"?

General CHILTON. Thank you, sir. Fundamental to that is an investment in the nuclear enterprise infrastructure. To have a first-class nuclear deterrent, you must have a first-class plutonium production capacity and uranium production capacity.

And the investments in this budget that start to improve the infrastructure at Los Alamos National Laboratory as well as at Oak Ridge are absolutely fundamental to enabling the capabilities that I have talked about that we need in the past.

Additionally, part of the focus of the budget increase is to attract the quality people that we are going to need for the future and hire the young people into the enterprise to make sure that we can sustain the stockpile for the future.

And lastly, we need to continue to move out on the W76 production, get that up to full rate production, so that we can complete that by 2017. Today, because of the issues with infrastructure, we are only capitalized to handle one weapon at a time. So it is a se-

rial—we have to approach our problems serially. Hopefully we will fix that in the future with the investments.

But given the reality for the next 10 years until that can be achieved, it is important to get the W76 done so we can move on to the next weapon, which needs life extension attention, and that would be the B61.

So the investments in these areas are absolutely critical to follow that path that I outlined before.

Mr. FRANKS. Can I throw one last question to Mr. Miller here?

Secretary Gates assured this committee that the START negotiations with Russia would not be linked to missile defense reductions for this country. Do you continue to assure us of that as of today?

General CHILTON. Yes, sir.

Mr. FRANKS. All right.

Thank you, Mr. Chairman.

Thank you both.

Mr. LANGEVIN. I thank the gentleman.

Mr. Larsen is now recognized for five minutes.

Mr. LARSEN. Thank you, Mr. Chairman.

General, welcome back, and a couple of questions. Can you just go back to the nuclear infrastructure? Can you tell us what in the budget—what the budget says about year 2012 and about Chemistry and Metallurgy Research Replacement (CMRR) that gives you confidence about the nuclear weapons facilities infrastructure and its ability to support a capable deterrent?

General CHILTON. Sir, I would like to send that over for the record, the specifics of that. It is in the NNSA budget, and as we have looked at it, it is the start of exactly what I believe we need to do as far as recapitalizing both those facilities.

But I would like to take that for the record and make sure we get you the exact numbers, how they are proceeding.

[The information referred to can be found in the Appendix beginning on page 95.]

Mr. LARSEN. Yes, please do that.

Dr. Miller, can you address that from your end of things?

Dr. MILLER. I would also like—sir, would like to take it for the record, give you the exact numbers. I will say that this was a focus of early work in the Nuclear Posture Review, and the decision was taken to move forward with both of these, both of these facilities, in parallel.

[The information referred to can be found in the Appendix beginning on page 94.]

Mr. LARSEN. Great.

General, in regard to space policy, there is obviously concerns about other space-faring nations, China in particular, usually, and sometimes Russia. Are we headed towards—with regards to space policy, are we being driven by a goal of dominance in space, of control of space, or access to space?

General CHILTON. Sir, I would defer the policy question to my colleague here who is in charge of that.

But I can give you a war fighter's perspective——

Mr. LARSEN. Yes.

General CHILTON [continuing]. If I could.

Mr. LARSEN. Yes.

General CHILTON. From a U.S. military perspective, it is clear we are dependent on space for our military operations today. My observation of other countries in the world is that they are growing more and more dependent as well on space because they see the advantages of utilizing space in both our precision munitions and also our ability to globally communicate and move information around.

So in the future, I have no doubt in my mind that we will be challenged. Our forces will be challenged. Future adversaries will seek to deny us the ability to use the advantages we have in space. And that, from a military perspective, is something we should anticipate and prepare for.

Mr. LARSEN. Okay.

So then, Dr. Miller, what does that mean for what drives the policy: dominance, control or access?

Dr. MILLER. Sir, the access to space is fundamental to day-to-day military operations, as the general suggested. And in fact, it is accurate to say that our dependency as well as others' is increasing there.

One of the things that we were focused on very heavily in the ongoing review of strategy is what should be the United States' deterrence posture with respect to space. And this is dealing with the—not just the reality that it is congested, as I said before, but also increasingly contested.

We are looking at a number of elements. We start with the resilience of our space-based capabilities. We look at the requirement to hedge against the possibility of the loss of some of those capabilities both with respect to the ability to conduct operations in a degraded space environment but also be able to provide capabilities from other domains, so—for example, air breathers for both ISR and possibly for communications relays.

And then part of the deterrence posture has to be to consider how we would respond to various types of actions taken against our space assets. And we have begun to work through that problem relatively systematically.

I think that we will have a good bumper sticker, if you will, for the objective. But the goal is going to be to assure access to space and to ensure that we as a military and as a country are able to continue to operate and to fulfill the requirements that space provides for the warfighter and for our economy and for our society.

Mr. LARSEN. Well, we will look forward to the space policy and the—and, for that matter, the NPR as well. I look forward to all the reviews that are due, and delayed, getting up here.

Dr. MILLER. Me, too.

Mr. LARSEN. Us more so.

General, you are in charge of the Capabilities Based Assessment on Electronic Warfare, and I wouldn't be—you know, it wouldn't be fair for me to sit here and not take any of my time to talk about Electronic Warfare.

So can you give me an update on where STRATCOM is on the Capabilities Based Assessment on Electronic Warfare and what we can expect to see as a deliverable this year?

General CHILTON. Yes, sir. It was about a year and a half ago that Admiral Keating came forward to the Joint Chiefs and

STRATCOM to express this concern about what he perceived as a lack of attention in the electronic warfare area, and STRATCOM was chartered to go off and do an Electronic Warfare Capabilities Based Assessment, which the Joint Information Operations Center did for us and completed this past year.

Our goal is always to get that done in time to inform the budget that has just been submitted to the Congress this year, and I think we achieved that.

You will see plus-ups in the acquisition plans for the Growler, the F–18 Growler, as well as investments for sustainment of the Marine EA–6B and an addition of an Air Force Compass Call aircraft to this budget.

Where I would describe we are, Congressman, now is we have analyzed and understand our capability shortfalls, defining requirements and advising the budget, and I can see that continuing to go forward. And it will be important for us to go forward here because I think we got to where we were a couple years ago by lack of attention in this area.

And I think, also, the exigencies of the fight we were in in Iraq and Afghanistan—suddenly we started to see interference between various elements of the services bringing in Electronic Warfare to Counter-Improvised Explosive Device, for example, so maybe that interfered with the Comm system from another service, or maybe even in service.

So a better focus on integrating these capabilities as we bring them forward is something we are going to have to keep our eye on.

Mr. LARSEN. Right. Well, thank you.

Thank you, Mr. Chairman.

Mr. LANGEVIN. I thank the gentleman.

The chair now recognizes Mr. Lamborn for five minutes.

Mr. LAMBORN. Thank you, Mr. Chairman.

General Chilton, it is good to see you again.

And my question is what, or who, is the responsible agency for missile defense training? And what joint requirements have been established for such training? And has STRATCOM assessed the need or the overall existence of training as it stands now to identify possible shortcomings?

In my understanding, it is sort of scattered and diffuse right now. What is your assessment? And is there a responsible agency at this time?

General CHILTON. Thank you, Congressman. The responsibility for organizing, training and equipping belongs to the services. With the accelerated time frame and the way that we rolled out missile defense as quickly as we did, a lot of the development—sort of the organization and development of the systems was in MDA, the Missile Defense Agency.

And so now what we are seeing is transfer of those capabilities over to the services. All of the various capabilities in the missile defense arena have been assigned to various services, I would say with the exception of the Command, Control, Battle Management and Communication (C2BMC) function, which is still yet to be assigned.

So as Terminal High Altitude Area Defense (THAAD) goes forward, as Aegis goes forward, the Army will organize, train and equip THAAD. The Navy will organize, train and equip Aegis. The Navy has already taken on Sea-Based X–Band Radar, that system, to do that function, to organize, train and equip that radar platform.

And so we see these all transferring over to the services, and they will have the responsibility for training the forces, to provide them to the regional combatant commanders to execute those weapon systems.

Mr. LAMBORN. So it is fair to say that there is no overall joint training at this time.

General CHILTON. Not a formal joint organization that is doing training. That is not to suggest that our operators are not trained in their systems. They are today.

Mr. LAMBORN. Oh, sure.

General CHILTON. But the responsibility for long-term training, growth of the force, recruitment, school sets, *et cetera,* will be the responsibility of the services.

Mr. LAMBORN. Okay. Okay, thank you.

And, Dr. Miller, I would like to take a step back and ask more of a broader strategic question. Last year, the Administration justified cuts to the Ground-based Midcourse Defense (GMD) System because the long-term threat was said to be "slower to develop than previously estimated."

However, since then, we have all become aware of significant threat developments in North Korea and Iran's long-range missile programs.

At what point would the Department reevaluate either its reductions to homeland defense and, specifically, cutting the ground-based interceptors from 44 to 30, or to consider accelerating the Phases Three and Four of the Phased, Adaptive Approach?

What has to happen before we will take those steps now that we see what is happening more with Iran and North Korea?

Dr. MILLER. Sir, that was a question that was looked at in some detail in the Ballistic Missile Defense Review, and you are absolutely correct that there have been some developments over the last year with respect to both North Korea and Iran and their capabilities and the programs and activities that underlie them.

The Department will continue to assess the requirements associated with ballistic missile defense, including the GMD system.

One of the things that the Secretary of Defense did in order to hedge our position was to go ahead and finish off the silos at Missile Field 2 at Fort Greely so that, in the event that the threat does emerge in greater quantity than we currently would anticipate, we are able to respond relatively quickly by adding additional missiles. They would come from the test program if that were necessary.

With respect to accelerating any Phased, Adaptive Approach and the possibility of accelerating SM–3 Block IIA and IIB, as you know, the IIA is just very early in its development at this point, and the IIB is a program that is just about to—just really getting under way.

I think at this time it would be premature to talk about accelerating them. We have got some important milestones for SM–3

IIA in the next couple of years. And at that point, it would be possible to answer that question with more data.

Mr. LAMBORN. Okay, thank you.

And along a similar line, some of us are concerned about cuts in the resources for—Operationally Responsive Space. In two years now, that has been cut by 59 percent, and just 24 percent of that was this year.

So we are concerned about that, given what is happening with China's capabilities, for instance, and shooting down its own satellite. So do you share our concern about those budget cuts for Operationally Responsive Space?

General CHILTON. Sir, I don't at this point. I think the Operationally Responsive Space Organization Office, in general, has made great progress along the lines which I think are important, and that is developing the key enabling technologies, concepts of operations, investments in the things that would enable a responsive space program.

There are three phases. We broke it into three requirements in STRATCOM: Tier 1, 2 and 3, Tier 1 being what can we do faster and better with what we have today on orbit, and that, I think, has matured quite well.

Tier 2 is a little more difficult, and that is, how do you build the infrastructure and the systems and put them in place so that you could rapidly launch, either to augment in crisis or replenish in time of war, your satellites on orbit.

And of course, Tier 3 was to—how could you put a system in place that would allow you to quickly implement new technologies or new needs that might arise along the way.

Fundamental to that is launch systems, common buses, common interfaces, *et cetera,* and I think the funding is supporting that quite well. We saw some increases required because the follow-on to the first four TacSats was Operationally Responsive Satellite-1, which is a program that is moving forward to be launched.

But you can expect to see a bump-up in that funding requirement and then a bump-down, and so long as we see that steady funding to support the enabling technologies, I am comfortable.

Mr. LAMBORN. Thank you.

Mr. LANGEVIN. I thank the gentleman.

All of the members of the subcommittee have had their chance to ask the questions in the first round, and I now turn to Mr. Bishop for an opportunity to ask questions. He is a member who is a member of the full Armed Services Committee.

Mr. BISHOP. Thank you. Thank you, Mr. Chairman. I appreciate being invited back to the subcommittee on which I at one time did serve, a long, long time ago.

Both Dr. Miller and General Chilton, once again, thank you for being here.

Dr. Chilton, I appreciated your written testimony, even though I only cared about pages 10 through 12, but those three pages were great.

Let me ask you four questions that deal with the industrial bases, if I could. Let me just give them to you out there. And if I have time I would actually like to talk about some of your comments about uranium development.

But the first four questions are based on the fact that last year was the 50th anniversary of the ICBM. And as you said on page 10, it is still the most responsive and cost-effective leg of the triad, which I agree.

I am concerned, though, that the Department of Defense and Air Force may be taking the ICBM for granted, in the way it sustains its long-term financial support.

Specifically, in fiscal year 2011, only $46 million was allotted to solid rocket motors for the Minuteman III, which will produce three motor sets, even though the industrial base has said they need to do six to maintain the warm line facility.

In contrast, the Navy funds 12 motor sets for their D5 warm line. Now, what really worries me is the Air Force in fiscal year 2012 only has $10 million for that line and in fiscal year 2013 and beyond, it is zero. So the first question is, obviously, do you have an opinion on how many motor sets for Minuteman III you really need to sustain the solid rocket motor industrial base. And since there seems to be a disconnect there, how do you solve that one?

Number two goes into another area which is closer to you, with your background obviously having been in space. We asked both Secretary Gates and Donley if they had been consulted by NASA before they came up with their naive decision to cancel Constellation, and they answered in the negative, although the Pentagon has sent us two reports and a letter from the Under Secretary of Acquisition talking about the significant negative impact on the military side even a slowdown of Constellation may be.

And it goes into what Mr. Lamborn was asking that, you know, if you don't have the industrial base and you want to reevaluate GMD, you may not have the ability to do it. So question number two is, did any high-level NASA officials talk to you or USSTRATCOM about the impact to the industrial base?

Number three, if you would react to—I don't know if it is General Payton or General Kehler. I think it was General Kehler who last week testified over in the Senate that there is a potential of at least doubling the cost to the Air Force of future propulsion for the Evolved Expendable Launch Vehicles (EELVs) if, indeed, the industrial base is harmed in some way.

And the fourth one is how important is the solid rocket motor industrial base to our national defense, and how are you at STRATCOM involved with NASA and the Administration today in trying to address that industrial base issue which Secretary Donley did say was a concern that they had to address somewhere in the future when he was in front of the full committee?

And if you can get through all of those, I have one on uranium, but we will see what happens, okay?

General CHILTON. Thank you, sir. I will give it my best shot. First of all, United States Strategic Command and our component, Air Force Space Command, are paying close attention to the ICBM, the health of that force.

We are trying to make the—advocate for and make sure the appropriate investments are made to sustain that capability through 2030, and we are seeing those investments start to come in to enable that currently.

With regard to the industrial base, I have raised concerns about that in the past, and it is not just for—I would point out, not just for solid rocket motor propulsion technology and production, which is important, but I think, writ large, it is appropriate for us to look at industrial bases for all of the things that we need to conduct military operations, to include large aircraft production, whether it be tankers or airlift or bombers, to include space satellite productions, all of those things.

Those are important that we, every now and then, pause and look at those. And Secretary Carter in Acquisition, Technology and Logistics (AT&L), I know, is taking these issues very seriously and looking at them.

I don't have an opinion on what is adequate to sustain the industrial base in the solid rocket motor area, but I think analysis needs to be done to do that. The Navy and the Air Force had really two different approaches to their solid rocket motor programs. The Air Force was, buy them all at once and end the production. The Navy was to keep a warm line going.

The startup of a warm line for the Air Force this year is actually a change to the way they had done business in the past, and can no doubt assist the industrial base. But I don't have a good answer for you on whether or not—I don't have the knowledge base to assess whether that is adequate or not to support it.

With regard to NASA, I was not consulted with regard to the cancellation of the Constellation program before it was announced.

And with regard to EELV costs, I think General Kehler is the right person to talk to this. From an organize, train and equip perspective, Air Force Space Command runs the programs that support access to space and launch, and so I would be at peril in arguing with his assessment of what the future costs might be.

And lastly, I think kind of circling back as well, the—any decision made on—by the part of NASA on how they would proceed forward with their needs for solid rocket motors certainly needs to be taken into the calculus of AT&L as they look at the broader industrial base and our needs for solid rocket motors for the strategic deterrent.

Mr. BISHOP. Thank you, General. I have got 10 seconds and I will finish this up. I would appreciate for the record an analysis of what you are going to do with the warm line if, indeed, you go from 46 to 10 to zero million in maintaining a warm line and, indeed, if the three that are in there for this year—and the industry says you still need six to maintain the warm line. That is a disconnect. I would appreciate for the record if you could provide that.

And I also appreciate very much your answer to those other questions, and we will talk about how Department of Interior's canceling of some of our industrial—our development of uranium in northern Arizona impacts you later on.

I yield back, sir.

General CHILTON. Thank you, sir. And we will take those for the record.

[The information referred to can be found in the Appendix beginning on page 95.]

Mr. BISHOP. Thank you, sir.

Mr. LANGEVIN. I thank the gentleman.

We will now turn to our second round of questions for those members who have further questions.

Let me turn to another issue that is of concern to me, and that is our management of our weapons stockpile. As both witnesses well know, last year Section 3113 of the National Defense Authorization Act for Fiscal Year 2010 created the Stockpile Management Program.

The statute contains five objectives, which I am sure you are well aware. Increase the reliability, safety and security of the nuclear weapons stockpile. Two, further reduce the likelihood of the resumption of underground nuclear testing. Three, achieve reductions in the future size of the nuclear weapons stockpile. Four, reduce the risk of an accidental detonation. And five, reduce the risk of a weapon being diverted to a terrorist.

Now, the statute also contains three limitations. First, any changes to the stockpile must be made to achieve the objectives of the statute.

Second, any changes must remain consistent with basic design parameters by including, to the maximum extent feasible, components that are well understood or are certifiable without the need to resume underground nuclear weapons testing.

And third, any changes must use the design certification and production expertise resident in the nuclear complex to fulfill current mission requirements of the existing stockpile.

So my question to you, General Chilton, is whether you are comfortable with both of those objectives and limitations contained within the statute. In particular, do you believe the United States can achieve its nuclear deterrence mission while limiting changes to those that "fulfill current mission requirements to the existing stockpile"?

General CHILTON. Chairman, I am very comfortable with the objectives of the Stockpile Management Program and with the statement you just made with regard to—I need no new military capabilities today for the weapons that are required for providing the strategic nuclear deterrent for the United States of America.

And I think the recommendations are prudent that we ought not to develop changes that would necessitate testing, since that is our goal, is not to test.

On the other hand, we should not constrain our engineers and scientists in developing options on what it will take to achieve the objectives of the Stockpile Management Program, and let them bring forward their best recommendations for both the President and for the Congress to assess as to what is the best way forward.

Mr. LANGEVIN. Very good.

Dr. Miller, did you have any comments?

Dr. MILLER. Sir, my short answer is yes, the objectives make good sense, and that the Nuclear Posture Review report will describe, in part, how the Department of Defense and Energy will move forward in meeting the guidelines of the Stockpile Management Plan.

Mr. LANGEVIN. Very good. Well, Dr. Miller, then my question to you is how the current Administration interprets the statutory guidance.

And as you know, the bipartisan Congressional Strategic Posture Commission identified a continuum of options that might be used to manage the stockpile, that continuum being refurbishment, reuse and replacement.

Further, the commission recommended that decisions concerning the management of each weapon should be made on a case-by-case basis within the basic limitation that the weapons should not be designed to accomplish new missions.

With that in mind, do you expect that the Nuclear Posture Review is going to limit options for managing the stockpile along the continuum described by the bipartisan strategic commission?

Dr. MILLER. Sir, I would like to say that that has been a central—an important question of discussion and of analysis in the Nuclear Posture Review, and what I would like to do is come back and brief or pre-brief the results of that review to the committee.

Mr. LANGEVIN. Very good. I would welcome that, and other members would as well.

With that, I will turn to the ranking member for a question.

Mr. TURNER. Thank you, Mr. Chairman.

General Chilton, then turning my questions to you, getting back to this issue of our deterrent and how to strengthen our deterrent, you know, many people are very concerned that when you lessen the numbers of overall weapons, that it doesn't strengthen but weakens the overall deterrent.

There are those that advocate that conventional weapons have a role to play as a deterrent. And obviously, you know, there are those, including myself—I am very concerned that the tradeoff between conventional and strategic weapons do not play the same role as a deterrent.

Could you speak for a moment as to whether or not conventional weapons could be substituted as a deterrent?

General CHILTON. Certainly, sir. First of all, with regards to the numbers, as numbers decrease, I think it is instructive to examine why we have the numbers we have and what is the principal driving force, particularly in the deployment of our strategic weapons.

And it has been carried over from the Cold War period, looking at Russia's threat to the United States with their capability and deterring that. And so as numbers go down in the Russian arsenal, you know, we start feeling more and more comfortable bringing our numbers down, which is why NPR and START, *et cetera,* are so closely intertwined together as we move forward.

So I think that is an important context to take when we start looking at total numbers of deployed strategic weapons anyway.

With regard to conventional weapons, I think there is a—there is no doubt that conventional strength can be a deterrent to misbehavior, so you can deter perhaps an invasion, let's say, by North Korea of South Korea by a strong conventional posture of both U.S. and South Korean conventional forces on the peninsula. And I think we have been successful in deterring in that fashion in the past.

However, we have to be careful when we start talking about one-for-one substitutions of conventional weapons for nuclear weapons, because when it comes to the deterrence mission—not the warfighting mission necessarily, but the deterrence mission—the

nuclear weapon has a deterrent factor that far exceeds a conventional threat.

And so we have to be very careful in our discussions and dialogue on this. Are we talking about conducting warfighting operations or deterrence operations when we start looking at these options?

That said, when we start looking at Prompt Global Strike and from a conventional perspective, I look at that as an additional weapon in the quiver of the President to give him options in time of crisis today in which he maybe only has a nuclear option for a timely response.

And so I am an advocate for having a Prompt Global Strike capability as an additional weapon set. But the connective tissue between that and the one-for-one exchange for a nuclear deterrent—I am not quite there.

Mr. TURNER. I think, perhaps in even both of your comments, the concerns with respect to the space industrial base and how it is supported were reflected—the committee and its members certainly have concerns.

Could you tell us, you know, your concerns and what we need to be doing to strengthen the competitiveness and the future of our space industrial base and, really, how critical that is in supporting our future capabilities?

General CHILTON. Sir, I believe our space industrial base is absolutely critical, as I mentioned, as well as our solid rocket industrial base and an aircraft production industrial base, for our mission sets.

Last year in my testimony I raised the issue of International Traffic in Arms Reductions (ITAR) not because I am an expert on ITAR but because I had heard enough conversations in the space community of—that it seemed logical that we should take a close look at that, because there was debate as to whether that was helping us or hurting us in a broader sense with regard to our industrial base.

And I am happy to see that the Department is starting to take a look at those regulations along with the State Department to see—to have a healthy debate and discussion on what is the best thing forward to ensure we preserve our industrial base to provide the capabilities we know we will need in the future.

And there is quite a bit of policy involved in that as well, so I will turn it over to Dr. Miller.

Dr. MILLER. If I could just add very briefly, export control reform is a very high priority of the Secretary of Defense. We have had a number of high-level inter-agency meetings on this.

And last week on March 11th the President gave a speech to the Ex-Im Bank, Export-Import Bank, in which he talked about long-term goal of—a goal of increasing our exports substantially. He also noted in that speech that the Secretary of Defense would be giving a talk within the next couple of weeks on export control reform. And that is, indeed, the case.

It is a priority. It is important for the space industrial base. And it is also—has, obviously, broader implications as well.

I would just add that we want to think about—as we go forward with our national security space strategy, we want to think about

the appropriate role of the private sector in providing both the assets and the services in some space mission areas. And we will be looking hard at the appropriate balance there.

Mr. LANGEVIN. Mr. Spratt is now recognized for five minutes.

Mr. SPRATT. I thought that Mr. Larsen would raise the matter of the ABL, the airborne laser, but he didn't, and I am curious as to know what is your assessment of its potential in light of the recent feasibility test that indicated it may be feasible. And what remains before we can consider this a deployable system?

Dr. MILLER. I will go first on this one. The concerns about the ABL were not—that led to its—to the restructuring of the program in fiscal year 2010 were not about the technical abilities of the laser but, really, centered around the operational concept and the ability of the platform to survive in a realistic threat environment, and for us to affordably procure enough of them to provide effective missile defenses relative to other options.

Sir, I think the future on laser capabilities is more likely to be in solid state, and we are learning things from the ABL program about that. That is now part of our technology effort. And I expect we will see that move forward substantially over the coming several years.

Mr. SPRATT. Another question. Reading quickly both your testimonies while you were testifying, I didn't notice anywhere any reference to something called a Replacement Warhead Program (RRW). Is there still such a program ongoing?

Dr. MILLER. Sir, there is no such program under way. I will say that I just discovered yesterday that the Air Force apparently inadvertently had a line in its budget submission that said RRW. It had all zeroes, but it is—that program has been terminated since, I believe, fiscal year 2008. And there are no plans to bring it back.

Mr. SPRATT. Towards the end of your testimony, you indicated that things were happening so rapidly in the cyber world that you needed—you are—at least to some kind of extraordinary procurement authority to waive the ordinary time-consuming procedures of procurement.

Could you elaborate on that? And are you asking us to do something to give you a special dispensation from the rules so that you can quickly respond to developments in that world?

Dr. MILLER. Sir, no, I am not at this time asking for any additional acquisition authority on the part—on behalf of the Department—an observation that with the rapid cycling of technology that we are often challenged, given how our acquisition system works typically, to be able to innovate.

And what we will be looking at as part of our strategy development is not just the possible changes to acquisition, which you would then—we would then request changes if necessary to Congress, but also how we can get innovation to happen more quickly.

Some of the changes we most need may be with respect to software rather than any hardware that has to be procured.

Mr. SPRATT. General Chilton, in your testimony, you indicated that talking about rebuilding or refurbishing the nuclear production complex—you mentioned, first of all, Y–12 at Oak Ridge. And then you mentioned Los Alamos.

Were you referring there to the possibility that building TA–55 would be the production source for plutonium pits in the future?

General CHILTON. It is the CMRR, the investment at Los Alamos that I was referring to, and that is—and that details what we will provide from the NNSA on what exactly their fundings will go into there, sir, the Chemistry and Metallurgy Research Replacement facility there.

Mr. SPRATT. Would you give us in a wrap-up where we stand on the START negotiation? To what extent are the Russians proving to be cooperative and——

Dr. MILLER. Sir, with recognition of—that this is an open forum and those are ongoing negotiations, I do think it is fair to say that over the past several weeks and the beginning of the new year there were some bouncy patches in the negotiations.

I think there has been substantial progress over the last couple weeks and, in fact, very substantial progress last week at the negotiations in Geneva. I think it is realistic to think now about concluding a treaty within the next several weeks.

It does not mean that that is going to be done. It is still the subject of negotiation. But the differences have narrowed substantially over the last week or so.

Mr. SPRATT. What is the range of likely deployed systems you are negotiating, numerically?

Dr. MILLER. Sir, the last range that was discussed publicly was between 1,500 and 1,675 nuclear weapons, and then a very wide range with respect to delivery vehicles, between 500 and 1,100. That range is, needless to say, much narrower today in the negotiations.

And because it is the subject of ongoing negotiations, I would prefer to answer in closed session to be any more precise.

Mr. SPRATT. That is fine. Thank you much.

Mr. LANGEVIN. Very good. I thank the gentleman.

Before turning to Mr. Franks for the next question, I am going to turn the gavel over to Chairman Spratt right now as I depart, and want to thank both Dr. Miller and General Chilton for your testimony and for your great service to our Nation.

Thank you for the work you are doing.

Dr. MILLER. Thank you, Mr. Chairman.

General CHILTON. Thank you, Mr. Chairman.

Mr. LANGEVIN. With that, the chair now recognizes Mr. Franks for five minutes.

Mr. FRANKS. Well, thank you again, Mr. Chairman.

Gentlemen, while we are waiting on the ratification by our partners in Czech Republic and Poland to begin the Phased, Adaptive Approach for missile defenses in Europe, you know, it is clear that the first phase, 1A, was scheduled to be implemented by 2011; the second phase, 1B, by 2015.

But if you look at the numbers of interceptors we are buying—and I know this point has been made before, but the SM–3 Block IB inventory buy in 2011 includes only eight additional SM–3 Block IB interceptors.

And of course, one of the critiques of the former Missile Defense Plan in Poland and Czech Republic was that it was expected to only cover 75 percent of our European allies by 2013.

So, Dr. Miller, I will direct my first question to you. How does the Phased, Adaptive Approach compare, coverage-wise, by the percentage of allies supported by—I will say 2013, but you can add additional timelines there? How is it covering us as opposed to the ground-based system?

Dr. MILLER. Sir, I don't have the precise numbers, and it will differ by phase. It expands from Phase One to Two to Three to Four, and the most significant coverage does come in the later phases.

What I will say is we can come back in a closed session and I will not just have the sort of lay-down but those numbers as well.

I do want to note with respect to the Standard Missile-3 that we are currently coming toward the end of procurement on the Standard Missile-3 Block IA and in the transition phase over to the IIB—I am sorry, to the Standard Missile-3 IB.

Mr. FRANKS. Right.

Dr. MILLER. And consistent with our approach of essentially fly before you buy, that the Department made a decision not to ramp up this year in fiscal year 2011 substantially the SM–3 Block IAs, but just the numbers that we are looking to buy SM–3 IB deliveries—324 by fiscal year 2017.

And once we have gotten to this development of the program, we are basically going to be pedal to the metal on that. And current plan—buy just of those two types is 436 of the IA and IB types. Additional interceptors will be of IIA and IIB.

Mr. FRANKS. All right.

General Chilton, in terms of deterring Iran in the immediate future, what do you think are our best strategies and our best capabilities to do that, deterring them from moving forward with their nuclear program, rather than defending them after?

My great concern is that the Administration may have come to the conclusion at this point that Iran is going to become a nuclear nation and that their strategy is toward containment in the future.

And I am terrified of that possibility. What opportunities do we have to deter Iran from gaining that capability in the first place on the table now?

General CHILTON. Well, this question is probably a little more appropriate for Dr. Miller. I will tell you, though, from my perspective, I have never—I have not seen any sense of giving up on any type of effort to encourage Iran not to develop a nuclear weapons program.

I think the Administration is foursquare behind that effort, and it is a whole-of-government approach. It can't just be a military approach. I mean, if we look back, we could say, "Well, you know, our nuclear might did not deter North Korea from developing a nuclear capability. Our nuclear might did not deter Pakistan and India from developing capabilities."

Nation-states develop capabilities for their own reasons independent, I think, of our nuclear posture. It is not to say that our defense, both conventional strength in the region and our nuclear posture, is not an important element, but it is much broader than that, I believe.

And I would turn it over to Dr. Miller to comment on that.

Dr. MILLER. I will just say very briefly that Iran had an opportunity in the negotiations that were undertaken over preceding

months to come forward with and to agree to a proposal that I think was very reasonable with respect to the Tehran research reactor and with respect to coming into full compliance with the Non-Proliferation Treaty.

As you know, sir, to date it has not taken those steps, and we are working with our allies and with others in the international community to really shift to what is, frankly, a pressure trap with respect to Iran and to look to try to change their incentives to bring themselves into compliance with the Non-Proliferation Treaty.

At the same time, the development of capabilities for missile defense, for counter-WMD and the improvement of conventional capabilities of our partners in the region will both help to dissuade Iran from pursuing this path, because it will reduce the benefits of them moving forward with their nuclear program.

And we want to continue to develop the capabilities of ourselves and of our partners to cope effectively with whatever capabilities Iran may pursue to discount their value.

And this dissuasion, this different form of deterrence, is really a fundamental purpose of the types of capabilities we are developing today.

Mr. FRANKS. Mr. Chairman, my time is up, but I am hoping that the gentleman might take for the record a question related to directed energy programs in the future.

I mean, I meant to get to ABL. I think that the accomplishment there was pretty profound and that we would love to hear what your thoughts are for directed energy applications in the future.

Thank you, Mr. Chairman.

[The information referred to can be found in the Appendix beginning on page 96.]

Mr. SPRATT. [Presiding.] Thank you, Mr. Franks.

Mr. Lamborn.

Mr. LAMBORN. Thank you, Mr. Chairman.

General Chilton, as a follow-up to my question earlier this morning about missile defense training, you mentioned that C2BMC training is currently unassigned. Why is that the case? And do you have an opinion as to where that should be assigned for that type of training?

General CHILTON. I think we are at the phase in the program where it is maturing to the point that we need to—and the Missile Defense Executive Board (MDEB) has recognized that in our last meeting that it is time to go off and decide who should be assigned that authority.

I don't have an opinion on who should take that, but clearly one of the services should do that, and the MDEB is taking a look at that, and we will make a—there will be a committee—there is a group studying that and they will make a recommendation back to the MDEB.

But I think it is a matter of maturity of the system and the timing of it.

Mr. LAMBORN. Okay, thank you.

And, Dr. Miller, I would like to ask you a question about declaratory policy. According to some press reports, there are White House principals who believe that the U.S. should declare that it will never be the first to use nuclear weapons and that it will only em-

ploy them against nuclear targets—for example, writing off the possibility of ever using them against chemical and biological types of WMD attacks.

What is the current declaratory policy? And what would be the rationale for changing it?

Dr. MILLER. The President has been presented with a wide range of options for considerations with respect to declaratory policy. And I think it would be inappropriate for me to discuss each of those in—certainly, in open session today.

Our current declaratory policy, I think, has accurately been characterized as calculated ambiguity. Since 1967 we have had a policy called our negative security assurance that says—that has said that the United States will not use nuclear weapons against non-nuclear weapon states that are in compliance with the Nuclear Non-Proliferation Treaty.

At the same time—so that is one side of it. At the same time, multiple administrations have broadly hinted at the possibility—and done it in different ways, but broadly hinted at the possibility of nuclear threats associated with other activities.

So, for example, administrations have talked about the possibility of a devastating and overwhelming response to the use of weapons of mass destruction without necessarily ruling out explicitly the use of nuclear weapons in that response.

Again, that has been described as calculated ambiguity. Others have different names for it, but that is what has been provided.

And at this point, I can say, again, that the President has been provided with a number of options to consider for declaratory policy, and it has been a point of some significant amount of analysis, both with respect to its impact on those we wish to deter and its impact on potential perception by allies and partners whom we wish to assure of our commitment.

Mr. LAMBORN. Are you saying—and if you can't answer this, I would understand, but that he is anticipating—the President is anticipating making a change in policy?

Dr. MILLER. Sir, I am saying that the range of options is under consideration and staying with the current policy would be—is one of those options.

Mr. LAMBORN. Okay, thank you.

Dr. MILLER. The range is under consideration. That is really all I can say.

Mr. LAMBORN. Okay, I appreciate that. Thank you.

Mr. SPRATT. Gentleman yields back his time?

Any further questions? Mr. Franks, did you have a question?

Mr. FRANKS. Mr. Chairman, other than just asking them to take the ABL and just the entire subject of directed energy for the record. I would like to get some insight, because we really, really haven't had a hearing on that test result yet, and I would love to hear that. Thank you, sir.

[The information referred to can be found in the Appendix beginning on page 96.]

Mr. SPRATT. Thank you very much for your testimony and for your responsive answers, and if you will also respond in due time to the questions for the record, and on some occasion we may take you up on the offer for a confidential hearing.

Thank you very much indeed, and thank you for your service to our country.

Dr. MILLER. Thank you, Chairman.

General CHILTON. Thank you, sir.

[Whereupon, at 12:08 p.m., the subcommittee was adjourned.]

A P P E N D I X

MARCH 16, 2010

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

MARCH 16, 2010

Opening Statement of Chairman James R. Langevin

Strategic Forces Subcommittee

The Status of United States Strategic Forces

March 16, 2010

Good morning. This hearing of the Strategic Forces Subcommittee will come to order.

The purpose of today's hearing is to examine the strategic posture of the United States and the status of our strategic forces, including our nuclear weapons programs, missile defense systems, and military space programs. These activities, which fall under the jurisdiction of the Strategic Forces Subcommittee, also track closely with the responsibilities of U.S. Strategic Command, or STRATCOM.

Thus we are pleased that General Kevin Chilton, the Commander of STRATCOM, agreed to appear before the subcommittee today. General Chilton has testified before the subcommittee in the past and we thank him for coming back. Dr. James Miller, Principal Deputy Under Secretary of Defense for Policy, has also agreed to appear before the subcommittee today and I would like to welcome him as well.

Dr. Miller's presence is particularly timely given the release yesterday of the interim Space Posture Review, the release of the Ballistic Missile Defense Review last month, and the pending release of the Nuclear Posture Review.

Much has transpired in the realm of strategic forces and strategic policy since the subcommittee took testimony on these matters last March.

On April 5, 2009, President Obama delivered a comprehensive address on nuclear security in Prague in which he declared: "I state clearly and with conviction America's commitment to seek the peace and security of a world without nuclear weapons."

He went on to say: "As long as these weapons exist, the United States will maintain a safe, secure and effective arsenal to deter any adversary, and guarantee that defense to our allies—including the Czech Republic. But we will begin the work of reducing our arsenal."

On July 9th, President Obama and Russian President Medvedev issued a joint statement of understanding for establishing a follow-on to the START Treaty that included targets for the number of accountable warheads and launchers under a new agreement.

Last summer, in response to the increasing challenges we face in protecting our computers and networks from intrusion, Secretary Gates announced his intention to create U.S. Cyber Command or CYBERCOM, as a subordinate unified command under STRATCOM.

On September 17th, President Obama announced his plan for strengthening missile defenses in Europe through a phased, adaptive approach to deploying defenses against the threat of Iranian ballistic missiles. Just a week later, the President revealed that the Iranians had been building a covert uranium enrichment facility near Qom for several years.

In December, the START Treaty expired and Presidents Obama and Medvedev issued a joint statement saying that the two nations would continue to work together in the spirit of the START Treaty following its expiration. At the same time, the two presidents also expressed, quote "their firm intention to ensure that a new treaty on strategic arms enter into force at the earliest possible date."

However, while the two presidents talked about this issue last Saturday, a new START treaty has yet to be completed, and press reports suggest that it has been delayed by the complex technical details involving data exchanges and verification, as well as the complicated political details related to missile defenses.

On January 12, 2010, China announced the successful test of a ground-based, mid-range missile interceptor. This technology

demonstration has implications not only for Chinese missile defense but for the safety of space systems in low earth orbit.

On February 1st, the Department of Defense released the first Ballistic Missile Defense Review along with the President's FY 2011 budget. Notably, the Department did not release either the Nuclear Posture Review or the Space Posture Review, both of which were required to be released on that date as well.

The Department had informed the Congress that the NPR would be delayed until March 1st and that the Space Posture Review would not appear until later this summer. Yet at the time, we were promised the early submission of a preliminary Space Posture Review, and so we were pleased that the interim space review was released yesterday.

However, the Nuclear Posture Review still has not been submitted and appears to be delayed, if we can believe press reports, by the President's deliberations on a few key issues including: U.S. declaratory policy—specifically, for what purposes might we use nuclear weapons; and whether and how many forward deployed weapons in Europe and Asia are needed for extended deterrence.

This morning, we look forward to hearing how our witnesses view the events of the past year, and the progress we have made toward addressing key challenges we face in the realm of strategic forces and policy.

As the witnesses are well aware, this subcommittee has a long record of seeking bipartisan approaches to the complicated challenges we face in the strategic arena. Through this hearing, we hope to continue these critical discussions so that we may, together, chart the right strategic path forward for the United States.

We look forward to your testimony here today, and to your help in making progress toward that goal.

Opening Statement of Ranking Member Michael Turner

Strategic Forces Subcommittee

The Status of United States Strategic Forces

March 16, 2010

Today's hearing comes amid considerable change in our strategic forces policy and posture. We anticipate the delivery of a Nuclear Posture Review (NPR) within the coming weeks that may significantly alter U.S. nuclear policy. According to reports, the U.S. and Russia are near completion on a new Strategic Arms Reduction Treaty (START). We have seen major changes in missile defense policy, including plans for missile defense in Europe. And later this year, we expect to see a new national space policy and Space Posture Review.

Meanwhile, we continue to witness disturbing trends in foreign strategic forces developments. Of particular concern, Iran and North Korea continue very public nuclear and ballistic missile programs. China is preparing to field a next-generation maneuvering ballistic missile and continues to develop counterspace capabilities. Russia possesses an overwhelming arsenal of tactical nuclear weapons and continues to modernize its strategic nuclear forces.

I would like to highlight a few concerns that I hope our witnesses will address here today.

First, let me start with U.S. nuclear policy. The President seeks "a world without nuclear weapons." I think we all share this long-term vision, but as French President Nicholas Sarkozy said last fall, "We live in a real

world, not in a virtual one." The bipartisan Strategic Commission similarly observed that it "would require a fundamental transformation of the world political order." Our national security policies must reflect this reality; to do otherwise would be irresponsible.

It is therefore deeply concerning when Administration officials and press reports suggest: that our nuclear policy will center on zero as the policy goal; that the NPR will reduce the role and number of nuclear weapons, starting with U.S. declaratory policy; and that another round of arms control talks will commence after START to further reduce our nuclear forces. It is unclear what changes in the threat or security environment are driving such deep reductions. What is the strategic rationale behind this policy? Do we expect others like North Korea, Iran, Pakistan, Russia, and China to give up their nuclear arms once the U.S. does? Will allies who benefit from U.S. extended deterrence commitments feel equally assured when the U.S. reduces its nuclear deterrent and offers conventional forces as a substitute? I hope our witnesses here today can address these fundamental questions.

I was pleased to see a 13-percent increase in this year's budget request for the National Nuclear Security Administration's weapons and nonproliferation activities. It appears that the Administration has embraced the Stockpile Management Program established by this committee last year, and will fund more comprehensive life extension programs, warhead safety and security enhancements, and infrastructure modernization. However, commitment to the sustainment and modernization of our nation's deterrence capabilities cannot be measured with a single year's budget request.

As we all know, strategy, programs, and budgets are derived from policy. Though we're seeing a one-year influx of funding, I am concerned that a "zero" policy might lead to less program and budget support in the outyears. Will it alter STRATCOM's ability to effectively deter potential adversaries and lead to greater risk in our strategic posture?

Second—while there is bipartisan support in Congress for European missile defense—that support is contingent upon a clear and detailed understanding of the Administration's plans, which we have not seen. Ranking Member McKeon and I wrote the President last week asking for such details.

The Phased Adaptive Approach for Europe and the new regional missile defense architectures outlined in the Ballistic Missile Defense Review (BMDR) have significant force structure and inventory implications. However, without a detailed understanding of these plans, it is difficult to assess whether the budget is sufficient. One thing is clear: demand exceeds supply. How will STRATCOM manage these limited assets, particularly Aegis ships? Will an increase in missile defense assets for Europe result in less protection for other theaters?

I want to commend the Department on the BMDR and the restoration of some missile defense funding. It is a welcome indication that the Administration took note of concerns expressed by many of us that a topline increase was necessary to sustain our homeland missile defense capabilities, fund the new approach for Europe, and expand missile defense inventories.

I do worry, however, that we're giving up on some promising technologies while rushing to pursue others. The Airborne Infrared (ABIR), PTSS, and SM-3 Block 2-B are interesting concepts, but still unproven technologies. Meanwhile, the Airborne Laser recently demonstrated a successful missile shoot-down, yet the budget request barely keeps it going to support further development of directed energy technologies.

Third, I would appreciate our witnesses' thoughts on space and cyberspace. I am particularly concerned about the health of our space industrial base and what it portends for the future viability of our national space enterprise. For example, NASA's recent termination of the Constellation program will leave Department of Defense to carry the full costs of the solid and liquid rocket engine supplier base, which could lead to the doubling of program budgets in the outyears.

Much of the aerospace workforce is nearing retirement. Young engineering and technical talent won't stick around to build more of the same, nor should we want them to. If our nation is to retain its leadership in space and defense technology, then we need a strategic, long-term, interagency approach that encourages innovation, invests in cutting-edge science and technology, and fosters new design and development activities that can transition into mature programs of record. Any thoughts you can share on how the Department is tackling these strategic challenges would be appreciated, as would your thoughts on export control reform.

Lastly, if one assumes that our strategic forces capabilities are interrelated—if there is a link between offensive and defensive capabilities—then logic would say that we should increase our missile

defenses as our nuclear forces decrease, and prevent any limitations on those capabilities. Such was the intent of Congress last year when we stated that U.S. missile defenses must not be limited in the START follow-on treaty with Russia. I want to reemphasize that point today.

General Chilton and Dr. Miller, thank you again for being with us today. You each possess a tremendous amount of expertise and insight on our nation's strategic forces, and our nation is better off as a result of your service. I look forward to your testimony.

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THE HOUSE ARMED SERVICES COMMITTEE
STRATEGIC FORCES SUBCOMMITTEE

STATEMENT OF

DR. JAMES N. MILLER
PRINCIPAL DEPUTY UNDER SECRETARY OF DEFENSE
FOR POLICY

BEFORE THE

HOUSE OF REPRESENTATIVES
COMMITTEE ON ARMED SERVICES
SUBCOMMITTEE ON STRATEGIC FORCES

MARCH 16, 2010

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THE HOUSE ARMED SERVICES COMMITTEE
STRATEGIC FORCES SUBCOMMITTEE

Mr. Chairman, Mr. Turner, and members of the subcommittee, thank you for the opportunity to testify regarding key strategic issues for the Department of Defense. It is a pleasure to join the Commander of U.S. Strategic Command, General Chilton, in discussing DoD policies and posture relating to nuclear weapons, missile defense, combating weapons of mass destruction (WMD), space, and cyberspace. The Department of Defense shares the Committee's view that these are critical and interconnected issues. In fact, as you know, last year we established a new office for Global Strategic Affairs in the Office of the Secretary of Defense for Policy to better focus the Department's efforts in these areas.

It would be difficult to overstate the importance to the nation of these strategic issues, which have been the focus of intensive study in DoD over the last year.

- In February, Congress received the report of the first-ever Ballistic Missile Defense Review (BMDR), as well as the Quadrennial Defense Review report, which emphasizes the importance of combating WMD and improving our capabilities in cyberspace.
- DoD and the Office of the Director of National Intelligence recently submitted an interim report on the Space Posture Review, and we continue to work together on a National Security Space Strategy that we intend to submit to Congress this summer.
- Working closely with the Departments of State and Energy, as well as others, we are nearing completion of the Nuclear Posture Review (NPR).

We recognize the importance of working closely with Congress on all of these issues, and are pleased to continue that process today.

U.S. Nuclear Policy and Posture

Today's nuclear security environment has changed dramatically since the end of the Cold War. While the threat of nuclear war has become increasingly remote, the dangers posed by nuclear weapons and materials have increased. As the President made clear in his Prague speech in April 2009, today's most immediate and extreme threats are nuclear terrorism and the proliferation of nuclear weapons. At the same time, we need to sustain strategic stability with Russia, even as we work to reduce both nations' strategic nuclear weapons.

The Administration is nearing completion of the 2010 Nuclear Posture Review, and will present the final report to Congress in the coming weeks. The NPR report will be a foundational document for this Administration, a practical work plan for accomplishing the objectives set out by the President in his April 2009 Prague speech. It will provide concrete steps to reduce the role and numbers of nuclear weapons with the ultimate goal of a world free of nuclear weapons, while sustaining, as long as nuclear weapons exist, a safe, secure, and effective nuclear arsenal. A key aim of the NPR is to strengthen deterrence, as well as assurance of allies and partners, and the report will outline a number of specific steps to do so.

As mandated by Congress, the NPR report will address U.S. arms control objectives, including in the ongoing New START negotiations. Detailed NPR analysis helped define U.S. negotiating positions, including on the central limits of the Treaty on strategic warheads and delivery vehicles. U.S. and Russian negotiators are now meeting in Geneva to complete an agreement that will reduce operationally deployed strategic nuclear weapons to their lowest levels in decades. This Treaty will enhance U.S. and Russian security by reinforcing stability at lower numbers of nuclear weapons, and increasing predictability through provisions to ensure effective verification.

One of the early conclusions of the NPR was that the United States should retain a nuclear Triad under a New START, comprised of intercontinental ballistic missiles (ICBMs), submarine launched ballistic missiles (SLBMs), and nuclear-capable heavy bombers. The FY 2011 budget submitted to Congress reflects this conclusion.

- *ICBMs.* The Department will continue the Minuteman III life extension program to sustain the fleet to 2030, as directed by Congress.

- *Strategic Submarines (SSBNs).* The current fleet of Ohio-class submarines will begin to retire in the 2027 timeframe. In order to maintain an at-sea presence for the long-term, the United States must begin development now of a follow-on strategic submarine. To begin the process, the Navy will take the necessary steps to begin technology development.

- *Heavy Bombers.* The Department proposes to invest over $1 billion over the next five years to support upgrades to the B-2 stealth bomber. These enhancements will help

sustain survivability, and improve target defeat capabilities when the bombers are used in a conventional role. As a follow-on to the QDR, the DoD is now studying the appropriate long-term mix of non-nuclear long-range strike capabilities, including penetrating and standoff bombers, cruise missiles, and conventionally-armed ballistic missiles. Results from this in-depth study will support FY 2012 budget decisions.

The NPR has also reached conclusions regarding necessary investments to sustain our nuclear stockpile and modernize our nuclear infrastructure. As a result, the Administration proposed a 13 percent increase in FY 2011 in the National Nuclear Security Administration budget. A portion of this funding supports the W76 and B61 Life Extension Programs (LEPs) and allows for a follow-on LEP study to identify the path forward for the W78 warhead. The NPR will establish the guidelines for this and future LEP work.

Additionally, the NPR determined that investments in infrastructure are needed, including:

- Funding the Chemistry and Metallurgy Research Replacement nuclear Facility at Los Alamos National Laboratory, as the replacement for the existing, 50-year old CMR plutonium materials facility;
- Building a new Uranium Processing Facility at the Y-12 Plant in Oak Ridge, Tennessee; and
- Strengthening the science, technology, and engineering base as a prerequisite for conducting weapon systems LEPs, certifying weapons without nuclear testing, and providing annual stockpile assessments as well as supporting efforts to counter nuclear terrorism.

These investments are not only consistent with our nonproliferation and arms control agenda; they are essential to it. Guaranteeing the safety, security, and effectiveness of our stockpile, coupled with broader research and development efforts, will allow us to pursue nuclear reductions without compromising our security.

The NPR report will outline additional steps to reduce the role and numbers of nuclear weapons, while strengthening deterrence and sustaining a safe, secure, and effective nuclear arsenal. As

the NPR nears completion, the Administration will welcome the opportunity to consult further with members of this subcommittee and the Congress.

Missile Defense

Ballistic missile threats from regional actors are growing both quantitatively and qualitatively, a trend we expect to continue over the next decade. The ballistic missiles systems of potential adversaries are becoming more flexible, survivable, and accurate, while attaining greater ranges. For example, North Korea continues to develop the ICBM-class Taepo Dong II, while Iran is developing a Space Launch Vehicle (SLV) capability that could provide the basis for a future ICBM capability.

As directed by the President and Congress, the Department of Defense recently completed the first ever Ballistic Missile Defense Review (BMDR). This review comprehensively evaluated our ballistic missile defense policies, strategies, plans, and programs. Released in February, the BMDR report outlines a strategy and policy framework that focuses on balancing investments to develop and field near-term regional missile defense capabilities, while also funding developmental efforts to hedge against future uncertainties.

The BMDR identified six major priorities that will shape our missile defense approach:

1. The United States will continue to defend the homeland against the threat of limited ballistic missile attack.
2. The United States will defend against regional missile threats to U.S. forces, while protecting allies and partners and enabling them to defend themselves.
3. Before new capabilities are deployed, they must undergo testing that enables assessment under realistic operational conditions.
4. The commitment to new capabilities must be fiscally sustainable over the long term.
5. U.S. BMD capabilities must be flexible enough to adapt as threats change.
6. The United States will seek to lead expanded international efforts for missile defense.

Defending the Homeland

With currently deployed capabilities, the United States can defend the homeland against a limited ballistic missile attack by states such as North Korea or Iran should that threat emerge. By the end of FY 2010, the United States will deploy a total of thirty Ground Based Interceptors (GBIs) at Ft. Greely, Alaska, and Vandenberg Air Force Base, California. Today, only Russia and China have the capability to conduct a large-scale ballistic missile attack on the United States, but this is very unlikely and not the focus of U.S. ballistic missile defenses.

DoD is committed to deploying effective missile defenses, including for the Ground-based Midcourse Defense (GMD) system to defend against a limited ballistic missile attack on the United States. The Department will continue to develop, test, field, and improve the system, including the purchase of ground-based interceptors, construction and maintenance of missile fields and silos in Alaska and California, improvements to equipment already fielded, and a rigorous test program to ensure the GMD system provides an effective and reliable capability to protect the nation.

The Administration is pursuing a range of activities that will strengthen both regional defenses and our homeland defense capabilities. For example, efforts to strengthen our land-, sea-, air-, and space-based sensor networks in regions around the globe can provide valuable detection and tracking information that the GMD system can use to engage threat missiles. And investments in command and control upgrades can improve both regional defenses and homeland defense.

DoD is also hedging against the possible growth of the long-range ballistic missile threat. Efforts in this area include: completing Missile Field 2 at Ft. Greely Alaska, which will provide silos for up to eight additional interceptors; strengthening existing capabilities in Alaska and California; developing and testing a two-stage GBI; pursuing multiple paths to develop and deploy new sensors; and continuing to research directed energy systems for a ballistic missile defense role.

Defending Against Regional Threats

The United States has made significant progress in developing and fielding short- and medium-range missile defense capabilities, but there is more work to do. The Administration will pursue

a phased, adaptive approach to missile defense within key regions, an approach that is tailored to the threats and circumstances unique to each region. In so doing, we will work with allies and partners to strengthen regional deterrence architectures, building on the foundation of strong cooperative relationships.

As you know, on September 17, 2009, the President announced that on the advice of the Secretary of Defense and the Joint Chiefs of Staff, the Administration would pursue a phased, adaptive approach (PAA) to U.S. missile defenses in Europe. U.S. capabilities will be complementary to NATO missile defense efforts. Indeed, our goal is for PAA to contribute to a NATO territorial missile defense initiative. This approach will have four phases, with the first established in 2011, and increasing capabilities in each subsequent phase.

We have had robust cooperation with our European Allies for the PAA. The Czech Republic continues its strong support for missile defenses and we appreciate their interest in being involved with the PAA. Further, Poland committed last year to host a land-based site for the Standard Missile-3, or Aegis Ashore, to be deployed in 2018. And most recently, Romania committed to host an Aegis Ashore site, starting in 2015.

The flexibility of the phased adaptive approach will allow new capabilities to be deployed as technologies and threats mature. Looking beyond Europe, we will strengthen regional deterrence architectures by pursuing a phased adaptive approach that can be tailored to the scale, scope, and pace of the circumstances unique to any given region.

Broadly, our goal is to create an environment in which the development, acquisition, deployment, and use of ballistic missiles by regional adversaries can be deterred – and if necessary defeated. Strengthening international cooperation with allies and partners in Europe, East Asia, and the Middle East is critical to achieving that goal.

The United States is working with NATO allies to develop Active Layer Theater Ballistic Missile Defense (ALTBMD), a command and control system for regional BMD systems deployed in a NATO context. If NATO approves, ALTBMD will be enhanced to perform a territorial BMD role in Europe, and the PAA in Europe will be the U.S. contribution to a NATO BMD system to protect Alliance populations and territories, as well as U.S. forces, in accordance with Article 5 of the Washington Treaty.

The United States is also working closely with our allies and partners in East Asia. With Japan, for example, we have made considerable strides in BMD cooperation and interoperability. We are also consulting with other allies in the region, such as Australia and South Korea, to identify possible avenues of cooperation in BMD.

Similarly, we are working with countries in the Middle East to evaluate and meet their missile defense requirements. Some countries, including Kuwait and Saudi Arabia, have PATRIOT systems, while the United Arab Emirates is interested in acquiring PATRIOT and THAAD systems. We also actively cooperate with Israel on the Arrow and David's Sling programs in pursuit of operational cooperation to address regional threats.

The DoD is emphasizing capabilities that are flexible, mobile, and transportable, and that can be adapted to perform new or multi-mission assignments. Aegis BMD ships are one example. Aegis is a multi-mission platform that anchors the Navy's surface combatant fleet. Deployed globally, Aegis currently carries SM-3 missile defense interceptors. Our plans call for improving this interceptor in subsequent blocks to enable it to engage ballistic missiles of increasing range. The DoD is also looking to improve THAAD and PATRIOT systems.

In addition to developing flexible new technologies, the Missile Defense Agency is also working on new ways to adapt current technologies to perform new missions. An example is the Airborne Infrared program, which will mate an infrared sensor with the Air Force's latest unmanned aerial vehicle, the Reaper.

Ensuring Rigorous Testing

A priority for this Administration is ensuring realistic and rigorous missile defense testing prior to deployment. DoD plans a testing program to execute 125 tests from FY 2010 to FY 2015, including 15 salvo or multi-intercept missions. These will demonstrate our systems' capabilities against a wide-range of potential real-world scenarios.

We are committed to continuously improving and testing our missile defense capabilities. We intend to improve our models and simulations, expand our flight and ground test programs to test our capabilities against all ranges of ballistic missile threats, test against more complex threat

scenarios, and orient the baseline test program to quickly and efficiently collect the data required to accredit our models and simulations.

Countering the Threat of Weapons of Mass Destruction

I would like to turn now to another top strategic priority for this Administration and for DoD: preventing and countering the proliferation of nuclear, chemical, and biological weapons. An attack using these weapons would have global ramifications, and would threaten our ability to defend U.S. and allied interests and protect our citizens.

While the threat of strategic nuclear war has become remote, the threat of an attack using weapons of mass destruction is of grave and growing concern. For instance, instability resulting from the collapse of a WMD-armed state could lead to rapid proliferation of WMD material, weapons, or technology, and quickly become a global crisis. A nuclear-armed terrorist organization would similarly pose a threat both to the U.S. homeland and to the homelands of our allies and partner nations. Biological or chemical attacks could cause widespread casualties and economic mayhem worldwide.

The 2010 Quadrennial Defense Review (QDR) identified preventing proliferation and countering WMD as one of 6 priority missions for DoD. The QDR highlighted the need to expand capabilities to counter WMD; contain WMD threats emanating from fragile states and ungoverned spaces; and develop an integrated, layered defense network in multiple geographic environments.

The President's April 2009 Prague speech highlighted the importance of reducing nuclear dangers through preventing nuclear proliferation and nuclear terrorism. To that end, DoD is working closely with the Departments of Energy and State to ensure that vulnerable nuclear material is secured worldwide. We are also working with the interagency to strengthen international non-proliferation efforts including strengthening the International Atomic Energy Agency, impeding sensitive nuclear trade, and promoting the peaceful uses of nuclear energy. Further the Administration is committed to a successful NPT Review Conference, the conclusion of a verifiable Fissile Material Cutoff Treaty, the ratification and entry into force of the Comprehensive Test Ban Treaty, and efforts to ensure that the Proliferation Security Initiative and the Global Initiative to Counter Nuclear Threats will be durable and effective.

Additional initiatives include the establishment of a standing Joint Task Force-Elimination Headquarters; strengthening countermeasures and defenses for non-traditional chemical agents; enhancing nuclear forensics; expanding the biological threat reduction program; and developing new verification technologies to support arms control agreements.

Space and U.S. National Security Requirements

Space capabilities are key to prevailing in today's conflicts. In Afghanistan, commanders receive actionable intelligence in minutes, rather than hours, as a result of significant investments in space-based intelligence, surveillance and reconnaissance. In a few short years, space capabilities have gone from unique "one-off" systems, to "nice to have" in the fight, to "got to have it."

More broadly, our national security space systems enable global awareness and connectivity. Satellites provide national decision makers and military forces with asymmetric advantages including tactical and strategic missile warning, critical precision navigation and timing, tactical intelligence, targeting data, weather information, worldwide secure communications, and command and control of conventional and nuclear forces. Last year, the U.S. conducted 65 space launch missions from nine ranges, supporting both national and commercial requirements.

As discussed in the interim report of the Space Posture Review, the space environment is increasingly congested, competitive, and contested.

Space is *congested*: There are over 21,000 objects in the current space catalog and over 1100 active systems on orbit. Our own space ventures have created some space debris, and as more countries enter the space domain with on-orbit assets, increasing space debris could jeopardize the long-term sustainability of key orbital "belts." The 2007 Chinese ASAT test alone created over 2000 pieces of trackable space debris. In February 2009, Iridium 33 (a commercial satellite) and COSMOS 2251 (an operable Russian communications satellite) collided in Low-Earth Orbit (LEO). This collision created another 500 pieces of debris in low earth orbit. The U.S. Space Shuttle has had to maneuver to avoid this dangerous debris, and national security systems have expended valuable fuel to avoid collisions.

Space is also increasingly *competitive*. Today, more than 60 nations or commercial entities have satellites in space. Nations and consortia in Europe have emerged as leading global players in the development of space technologies and applications that support civil, commercial, intelligence, and military use—indeed, many of these entities place a premium on dual-use space capabilities. Among them, Russia has maintained the largest infrastructure to support space operations. Many foreign countries which have more lenient export controls than the United States are increasing their presence in the international market with satellites, sub-components, and launch activities. As a space technology leader, the United States must balance carefully national security oversight of its space-related exports with the long-term health of our domestic space industrial base.

Finally, space is *contested*. China is far from the only actor seeking to develop the capability to deny or interfere with the space capabilities of others. As recently as last month, Iran was jamming commercial satellites to censor television news to their public, and other actors have made similar efforts. In 2003, Iran jammed broadcasts of the Telestar-12 commercial satellite, and Iraq jammed GPS signals during Operation IRAQI FREEDOM. Libya reportedly jammed Telestar-12 in 2005. U.S. and allied space assets today are threatened by both reversible and non-reversible capabilities and by both kinetic and non-kinetic effects, from spectrum jamming to hard kill of satellites.

In an increasingly congested and contested space domain, the Department of Defense must be prepared to operate under sub-optimal conditions, while endeavoring to prevent and deter conflict in space, and defend our space assets when necessary. Part of this is the ability to maintain real-time situational awareness of space events that could influence our capabilities. This is not solely a U.S. interest. Far from it. We are committed to maintaining a viable environment for space operations for all nations, even as we protect U.S. and allied interests in space and deter aggression in space.

To that end, the President has directed the Secretary of Defense provide Space Situational Awareness (SSA) for the U.S. government and, as appropriate, to commercial and foreign entities. The 2010 National Defense Authorization Act provided permanent statutory authority for the Secretary of Defense to provide SSA services to – and accept SSA data and information

from – commercial and foreign entities. The Secretary has directed USSTRATCOM to perform those responsibilities, and General Chilton took on that mission in December 2009.

The Department continues to invest in the SSA architecture to prepare for the continuing increase in international spaceflight, and to ensure that the benefits of space operations continue into the future. Strong U.S. leadership is required to enable safe spaceflight operations – and this leadership, in turn, is essential to fostering the adoption and implementation of international "best practice guidelines" for responsible behavior and use of the space domain.

The Administration is currently reviewing U.S. National Space Policy. The resulting presidential directive will seek to synchronize the broad U.S. equities in space, spanning national security, science and, commerce. Building from this new Presidential directive, the Defense Department and the Office of the Director of National Intelligence (ODNI) will develop a National Security Space Strategy. This effort will help us better align the ends, ways, and means to succeed in a congested, competitive, and contested space environment.

Recently, the Department and ODNI jointly submitted an interim Space Posture Review to Congress. The final version of this review, anchored around a new National Security Space Strategy, will inform other space-related Congressionally-directed reports, such as our review of space export controls and our 15-year investment strategy. When these and other space-related reviews are completed later this year, we expect to have a comprehensive approach to this critical and dynamic environment, from policy to investment, which will position the national security space sector for future success.

Cyberspace

It is impossible to overstate the DoD's dependence on cyberspace. DoD's information networks provide command and control of our forces, the intelligence and logistics on which they depend, and the weapons technologies we develop and field. In the 21st century, modern armed forces simply cannot conduct high-tempo, effective operations without resilient, reliable information and communication networks and assured access to cyberspace.

To frame what is at stake for DoD, the Department currently operates 15,000 different computer networks across 4,000 military installations around the world. On any given day, there are up to

7 million DoD computers and telecommunications tools in use in 88 countries, using thousands of warfighting and support applications. This makes DoD networks a tempting target in an environment in which foreign governments are developing cyber capabilities to gather intelligence and potentially position themselves to disrupt elements of the U.S. information infrastructure.

USCYBERCOM, as a sub-unified command to USSTRATCOM, will consolidate the day-to-day responsibility for operating and defending DoD's information networks. USCYBERCOM will focus the Department's cyber efforts and allow it to counter cyber threats with a unified effort. USCYBERCOM will have support from the recent stand-up of Service components including the 24th Air Force, the Navy's 10th Fleet, the Marine Forces Cyber Command, and the Army Forces Cyber Command. USCYBERCOM will also ensure that the DoD's full resources, skills, and capabilities are leveraged to ensure the full spectrum of cyber operations for its combatant commanders.

To ensure the long-term ability to protect our networks, we are training cyber experts and equipping them with the latest technologies to protect and defend our information networks and operate in this new war-fighting domain. DoD views development of a cadre of cyber experts as essential to the future effectiveness of US cyber capabilities. To that end, we are seeking to ensure the availability of a workforce of highly skilled cyber security specialists in government, and are currently evaluating the best way to proceed. This group will undoubtedly consist of civilians, personnel from the Armed Services, and contractors. Achieving robust capabilities will require long term planning to ensure that a pipeline of cyber security talent is created from which both the Department of Defense and the nation can benefit.

Effectiveness in the cyber domain will require changes in the way the Department does business. The standard acquisition process is not nimble enough to support or respond to the rapid pace of technological change in the private sector. We must continue to work with industry, the national labs, and DoD's cyber ranges to quickly incorporate technological advances into DoD's operations.

Securing our military networks requires a whole-of-a-government approach. We need to build robust relationships with interagency, industry, and international partners. DoD is working closely with the President's Cybersecurity Coordinator, and with our interagency partners as we develop a way forward on cyber issues. DoD is also collaborating with the private sector, through two main channels: the Enduring Security Framework and the Defense Industrial Base. The Enduring Security Framework is a public-private partnership between the Director for National Intelligence, DoD, the Department of Homeland Security, and the private sector; its goal is to provide a permanent forum for USG-industry dialogue. The Defense Industrial Base offers another platform for public-private partnerships; it is a critical infrastructure partnership council established by DoD to facilitate coordination between USG critical infrastructure programs and private sector owners and operators.

All nations have an interest in a secure cyberspace. The DoD is conducting bilateral conversations with allies to share cyber threat and attack information, and more broadly engaging allies and partners to establish better cooperative multilateral mechanisms for countering cyber threats and thwarting attacks.

Conclusion

The challenges related to the U.S. nuclear posture, missile defenses, counter-WMD efforts, access to space, and cybersecurity are among the most pressing and difficult the Department of Defense is addressing today. In all of these areas, DoD is committed to continuing to strengthen the strategic posture of the United States with improved capabilities, and appropriate interagency, international, and private sector partnerships.

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HOUSE COMMITTEE ON ARMED SERVICES

SUBCOMMITTEE ON STRATEGIC FORCES

STATEMENT OF

GENERAL KEVIN P. CHILTON

COMMANDER

UNITED STATES STRATEGIC COMMAND

BEFORE THE

HOUSE COMMITTEE ON ARMED SERVICES

SUBCOMMITTEE ON STRATEGIC FORCES

16 MARCH 2010

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SUBCOMMITTEE ON STRATEGIC FORCES

Chairman Langevin, Ranking Member Turner, distinguished members of the Committee on Armed Services, thank you for the opportunity to testify today, representing the extraordinary men and women of United States Strategic Command (USSTRATCOM). I'm privileged to showcase this joint team's achievements, discuss our requirements, and highlight future national security challenges across our mission areas. USSTRATCOM's active duty and reserve military members, civilians, and contractors form a superb joint team, whose dedicated planning, advocacy, and operational execution efforts advance our warfighting priorities. We continue to strengthen and sharpen our focus on deterrence while at the same time preserving our freedom of action in space and cyberspace. Before continuing, I must say that we appreciate your support, because legislative investments across our mission areas are essential to our providing global security for America.

Admiral Mullen's memorandum CJCS Guidance for 2009-2010 detailed the Joint Force's strategic objectives through 2010. These objectives include defending our national interests in the broader Middle East and South Central Asia, considering ways and means to improve the force's health, and balancing global strategic risks through deterrence. The uninformed observer might expect USSTRATCOM to aid the Joint Force only with deterrence, but this globally operational command does much more. In fact, the Quadrennial Defense Review (QDR) identified six key missions for the Department of Defense (DoD),[1] and USSTRATCOM plays a role in each of these missions, whether by conducting operations, supporting and advocating for global warfighter needs, closing gaps in geographic seams, or building relationships across a growing range of partners.

[1] The six mission areas are: (1) defend the United States and support civil authorities at home, (2) succeed in counterinsurgency, stability, and counterterrorism operations, (3) build the security capacity of partner states, (4) deter and defeat aggression in anti-access environments, (5) prevent proliferation and counter weapons of mass destruction, and (6) operate effectively in cyberspace.

USSTRATCOM continues to support actively the DoD work on the Quadrennial Defense Review (QDR), Space Posture Review (SPR), Nuclear Posture Review (NPR), Ballistic Missile Defense Review (BMDR), and the new Strategic Arms Reduction Treaty (START) negotiations. These reviews and START will shape the role of our strategic capabilities and define the investments necessary to recapitalize and sustain them, while highlighting USSTRATCOM's place at the nexus of today's primary national security challenges. We are now helping to translate these reports into the strategy and plans that our components and the joint force need. This year we will continue to focus on further developing our workforce, sustaining the highest possible standards in the nuclear enterprise, and integrating our global capabilities to support national and theater objectives. These efforts will require investing in the deterrent enterprise, identifying mechanisms to better integrate operations, plans, requirements, and activities among our components, standing up U.S. Cyber Command (USCYBERCOM) to better execute our cyber mission, and sustaining the critical national security capabilities provided by on-orbit satellite constellations.

U.S. STRATEGIC COMMAND

As we address today's challenges, USSTRATCOM has already devoted significant effort to align our priorities, plans, and investments across our components while simultaneously executing deterrence, space, and cyberspace operations. We have initiated and sustained several successful engagement efforts. USSTRATCOM's reinvigorated military-to-military outreach programs, which included senior-leader discussions with key friends and allies, including the United Kingdom, France, Japan, South Korea, Australia, and Israel on such topics as deterrence, space, cyberspace, and missile defense. USSTRATCOM was honored to host the United Kingdom's First Sea Lord, Admiral Sir Mark Stanhope; Australia's Vice Chief of Defence Force, Lieutenant General David Hurley; France's Chief of the Defense Staff, General Jean-

Louis Georgelin; and China's Vice Chairman of the Central Military Commission, Gen Xu Caihou. Gen Xu's request to visit USSTRATCOM during his U.S. tour highlighted China's recognition of USSTRATCOM's global role, and our very positive exchange showcased the tremendous potential of military-to-military relationships to build confidence and understanding between our countries. These dialogues are important and must continue.

Over the past year, we welcomed the stand-up of Air Force Global Strike Command and our components' increased focus on the deterrence mission. In addition to maturing the adjustments we made in our headquarters staff, USSTRATCOM's GLOBAL THUNDER 2009 deterrence exercise constituted the most extensive nuclear command, control, and communications (NC3) field exercise in over a decade. It demonstrated the full range of nuclear deterrence capabilities by integrating submarine strategic deterrent patrols, more than 90 aircraft sorties, an ICBM test launch, and five days of continuous airborne command-and-control operations. GLOBAL THUNDER's success demonstrated the readiness of America's strategic forces. Continued support for the joint training requirements and the established Combatant Commander Exercise Engagement (CE2) Defense-wide account is essential to ensuring future USSTRATCOM mission readiness.

Today's strategic mission requirements also demand the finest in command, control, and communications capabilities. Our 1950s-era headquarters falls short of providing the capabilities we need. We appreciate Congressional support for the planning and design funds appropriated in Fiscal Years 2009 and 2010 and requested for 2011. These investments move us closer to a 21st century headquarters and command center for deterrence, space, and cyberspace operations.

In the cyber domain, the Secretary of Defense directed USSTRATCOM to establish United States Cyber Command (USCYBERCOM) as a sub-unified command. This effort continued the reorganization of cyber forces that began with the Secretary's direction in October

2008 to place USSTRATCOM's Joint Task Force for Global Network Operations (JTF GNO) under the operational control of Joint Functional Component Command for Network Warfare (JFCC NW). From their inception, JFCC NW and JTF GNO had segregated offensive and defensive military cyber operations. This segregation detracts from natural synergies and ignores our experience in organizing to operate in the air, land, sea, and space domains. The establishment of USCYBERCOM will remedy this problem in the cyber domain and create a robust sub-unified command to address the growing importance of the cyber domain to national security. We have already begun consolidating JTF GNO and JFCC NW in preparation for the formal establishment of USCYBERCOM, which awaits confirmation of the nominated commander. We look forward to continuing to work with Congress and our Agency partners as we move forward to establish USCYBERCOM.

The Services are also reorganizing their cyber forces in order to present trained and equipped cyber operators to the Joint Force. Over the past year, each Service reshaped the alignment of its cyber forces into a more unified organization, and we welcome the stand-up of Army Forces Cyber Command, Marine Corps Forces Cyberspace Command, Fleet Cyber Command, and the 24th Air Force. These forces will enhance our ability to operate and defend DoD information networks and provide the President with response options in cyberspace.

To enhance the level of global strategic dialogue and USSTRATCOM's support to other Combatant Commands, we are more broadly engaging our military and non-military partners. In 2009, USSTRATCOM launched new or renewed annual symposia for each of our three lines of operation. More than 5,000 attendees, representing multiple commands, universities, industry, and at least ten other countries (including His Excellency Sergey Kislyak, Ambassador of the Russian Federation to the United States) held substantive discussions on challenges facing our deterrence, space, and cyberspace professionals. USSTRATCOM teams also deployed across

the globe to provide in-theater subject-matter expertise. Our teams facilitated more effective employment of our capabilities in intelligence, surveillance, and reconnaissance (ISR), space, operational security, electronic warfare (EW), and cyber. These accomplishments, along with development of integrated missile defense (IMD) capabilities and increases in space situational awareness (SSA), represent just a small part of USSTRATCOM's accomplishments.

STRATEGIC CONTEXT

Last spring, President Obama stated that as the world "has become more interconnected...we've seen events move faster than our ability to control them." Global economic and political turmoil, rapidly evolving information technology, nontraditional threats, continuing overseas contingency operations, and terrorism represent just some of the factors influencing global and regional security challenges. Moreover, state and non-state actors pursue traditional and asymmetric means to challenge the U.S. and our allies. With the exception of the U.S., all nuclear weapon states continue to modernize their nuclear weapon stockpiles and in some cases grow them further. Although the U.S. and Russia are reducing their strategic arsenals, North Korea and Iran remain on a dangerous nuclear path. Additionally, we find increasing threats to our freedom of action in the global commons of space and cyberspace, even as the importance of these domains to our national security continues to grow. For example, Iran's successful February 2009 satellite launch and North Korea's attempt a few months later illustrate the spread of space launch technology. However, successful space-launch vehicles can also represent progress toward an effective intercontinental ballistic missile capability. If perfected, such long-range ballistic missiles would place a larger area of the world at risk.

Cyber networks weave through every facet of our lives and enable extraordinary communication, intelligence, and command and control capabilities. However, an adversary acting in cyberspace can steal critical information, thwart vital data transmissions, or create

devastating effects beyond the cyber domain. Governments, militaries, corporations, universities, and the individual computer user must guard against vulnerabilities that are open to criminals, organized hacktivists, state actors, and insider threats. Addressing these challenges while capitalizing on the dramatic enabling capabilities of cyberspace requires an unwavering watchfulness, a dynamic defense-in-depth construct, a workforce that is carefully recruited, trained, and properly retained, strong partnerships, an infrastructure that supports global employment of DoD forces, and a realization that DoD's cyber culture, conduct, and capabilities must change.

STRATEGIC DETERRENCE

In an environment of such rapid economic, political, military, and technological changes, many wonder if "deterrence" is still possible. Today's multi-polar and increasingly complex strategic environment, which includes threats posed by proliferation and terrorism, requires that we increase our focus on deterrence because effectively deterring threats to our nation and our allies is not only possible, it is essential.

Since the end of the Cold War, however, the serious study of deterrence theory and strategy has been inadequate. Much like our changing global context, modern deterrence challenges necessitate more complex approaches. The modern era of smart power requires a commitment to a whole-of-government deterrence effort that capitalizes on the full range of diplomatic, information, military, and economic activities. Despite this complex environment, we have skipped an entire generation of future policy makers, strategists, academics, and military professionals in terms of training and developing them in the field of deterrence. Preliminary work on the NPR and new START treaty revealed this shortage of human capital. USSTRATCOM's first annual Deterrence Symposium, held this past summer in Omaha, was our initial public effort to revitalize attention to deterrence theory, thought, and practice.

Speaking in Prague last year, President Obama articulated his goal of moving toward a world without nuclear weapons, including a desire to reduce global nuclear dangers and the role of nuclear weapons in our national security strategy, while urging other nations to do the same. The President also asserted that "as long as these weapons exist, the United States will maintain a safe, secure, and effective arsenal to deter any adversary, and guarantee that defense to our allies." Just days before the President's remarks, the Strategic Posture Commission concluded that "nuclear weapons are both the greatest potential threat to our way of life and important guarantors of U.S. security." The commissioners agreed on two parallel paths forward: "one path which reduces nuclear dangers by maintaining our deterrence, and the other which reduces nuclear dangers through arms control and international programs to prevent proliferation." As the command uniquely responsible for our nuclear deterrent and for synchronizing DoD combating weapons of mass destruction (CWMD) planning, STRATCOM finds itself actively engaged in all of these endeavors.

Throughout the 65-year history of nuclear weapons, no nuclear power has been conquered or even put at risk of conquest, nor has the world witnessed the globe-consuming conflicts of earlier history. More than 180 state parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) have either foresworn the pursuit of nuclear weapons (in many cases because of the promise of America's extended deterrent umbrella) or pledged in good faith to move toward eventual disarmament. The U.S. and Russia have made steep reductions in their nuclear arsenals since the end of the Cold War (a seldom recognized but important demonstration of U.S. commitment) while joining together to pursue the goals of the Cooperative Threat Reduction Program. We have invested considerable intellectual effort toward a stable world order, where nuclear weapons seem at once dangerous, undesirable,

expensive, a tempting source of power and prestige, and yet also essential to continued peace and stability.

Today, our nuclear weapons and triad of delivery systems remain essential to our national security. Nonetheless, in light of the global security environment, we should continually consider to what degree nuclear weapons remain relevant, whether ours measurably encourage or discourage proliferation, and to what extent reductions and/or force size and posture changes enhance peace and strategic stability. At the end of the day, all of our actions must enhance the security of the United States, our most solemn responsibility.

The role of our nation's nuclear weapons in maintaining peace and stability, and therefore the security of the United States, is deterrence. Our deterrence strategy is predicated on the effectiveness of six distinct facets that in the aggregate make our strategy credible. These six facets are weapons, delivery systems, threat warning, nuclear command and control (NC2), weapon production, and industrial base. I will briefly discuss each of these.

Weapons

Nuclear weapons remain fundamental to our deterrent capability. Increasing the safety, security, and long-term confidence in the U.S. nuclear arsenal remains a top priority. However, the weapons we rely on today for deterrence were designed for short operating lives in a different era with different safety and security requirements. While individual components may last for years, combining the components in a radioactive environment has effects that we cannot fully predict. As recently noted in government review of the stockpile assessment, our current approaches to delivery system sustainment are not tenable over the long term and, for the weapons themselves, they are also not tenable if we desire to implement improvements to safety and security features.

As we ramp up to full-rate W76-1 production, we must also address promptly the B61 warhead life extension. By doing the B61 nuclear life extension now along with the funded non-nuclear life extension, we have an opportunity to save cost by avoiding a second life extension in the 2020s while increasing confidence in the safety, security, and effectiveness of the stockpile consistent with the President's vision. We must act now to fit the life extension within the narrow window of opportunity in the production complex.

We must also begin exploring sustainment options for the W78 ICBM and W88 SLBM warheads. The Strategic Posture Commission noted that any options would require some combination of refurbishment, reuse, and replacement, with decisions best made on a case-by-case basis. The Nuclear Posture Review is examining the appropriate policy guidance for considering future choices between refurbishment, reuse, and replacement. A recent study by the JASON Defense Advisory Group concluded that only reuse or replacement options allow for the inclusion of intrinsic surety features that would be the last line of defense against unauthorized use. I urge you to support life extension studies requested this year to best inform the Administration and Congress for future decisions.

The Fiscal Year 2010 National Defense Authorization Act created the Stockpile Management Program to increase safety, security, and long-term effectiveness of the U.S. stockpile without nuclear testing. I believe we can meet the goals of this program without seeking new military capabilities or resorting to nuclear testing. Reductions in the number of warhead types and in the size of the hedge stockpile are also possible.

Delivery Systems

The triad of diverse and complementary strategic delivery systems has supported our national security objectives in the past and will continue to do so well into the future. USSTRATCOM is actively working with the Services to validate proposals to recapitalize and

modernize our forces. Our intercontinental ballistic missile (ICBM) force celebrated its 50th birthday in 2009 and remains the most responsive and cost-effective leg of the triad. The Air Force is concluding a decade-long modernization effort to sustain the Minuteman III through 2020 and is continuing the necessary steps to meet the Congressional mandate to sustain the system through 2030. USSTRATCOM actively supports current life-extension programs and is working closely with the Air Force to determine the requirements of our next land-based strategic deterrent system. The Navy's SLBMs constitute the triad's most survivable and assured response element. A stealthy delivery platform and a highly reliable weapon system have proven an effective strategic deterrent combination, and USSTRATCOM supports the Navy's efforts to design a replacement for the Ohio-class ballistic missile submarine and sustain the Trident II D5 ballistic missile to meet future deterrent requirements. Finally, our nation will continue to require a nuclear-capable bomber's inherent flexibility to address a variety of possible adversaries and contingencies. USSTRATCOM supports the Air Force's efforts to sustain and modernize mission-critical B-2 and B-52 systems. We are also working with the Air Force to identify requirements for the next manned, nuclear-capable, long-range strike platform and air-delivered standoff weapon.

Threat Warning

Another key element of credible deterrence is threat warning that provides attribution. For decades, the Defense Support Program (DSP) and our early warning radars have provided the essential data necessary to ensure timely and informed decisions. They provide prompt and accurate data to the President and combatant commanders for detection, identification, and predicted impact point of ballistic missiles. Sustainment of our early warning radars and fielding of the Space Based Infrared Satellite (SBIRS) geosynchronous constellation are essential to maintaining timely threat warning and attribution. However, though SBIRS was originally

programmed to launch in 2002 as a replacement for DSP, we have not yet launched a single SBIRS satellite, and current schedules forecast that the first will not be ready before December 2010. I encourage your continued support to ensure the successful deployment of this system.

NC2

For deterrence to be effective, potential adversaries must know that the President can direct our nuclear forces under all circumstances. This requires a reliable and secure NC2 architecture. Our NC2 systems deliver warning and attribution information, provide for positive control of nuclear forces, and ensure our ability to employ nuclear weapons per Presidential direction. To remain effective in the most hostile nuclear environment, our NC2 relies on resilient satellite communication constellations (MILSTAR and its replacement, the Advanced Extremely High Frequency (AEHF)), cryptographic protection, and hardening. Many of our current NC2 systems were built during the Cold War and therefore require new investment for upgrades or replacement. Additionally, continued delays in procurement of AEHF-related equipment are a concern. The vital task of fielding modern and survivable NC2 systems is worthy of your full support.

Weapons Production

The Strategic Posture Commission and JASON noted that regardless of which life-extension options we choose for existing warheads, success relies on maintaining and renewing expertise and capabilities in science, technology, engineering, and production techniques unique to the nuclear weapons program. The National Nuclear Security Administration's (NNSA) aging infrastructure limits its sustainment capacity, forcing all life extension activities into a tight, sequential, and delicately balanced timeline that incurs undue risk. Moreover, our nuclear weapons design and manufacturing workforce is both aging and shrinking due to a lack of meaningful work, unstable funding, and the perception that nuclear weapons work is not

important. The custodians of America's nuclear deterrent—NNSA and its National Laboratories—have long labored in deteriorating plutonium and uranium facilities that date to the Manhattan Project and that the Strategic Posture Commission termed "decrepit." Decrepit is unacceptable. We owe our people at NNSA and the National Laboratories better. We owe our nation better.

To sustain the nuclear deterrent and successfully execute the Stockpile Management and Stewardship Programs, we must invest in new plutonium and uranium facilities, strengthen the science, technology, and engineering base needed to sustain and certify the stockpile, and seek out and develop our very best scientists and engineers. The President's 13% increase in requested NNSA funding represents a long-overdue investment in the nuclear complex and its people. I strongly urge you to support this request.

Industrial Base

Industrial base challenges complicate the sustainment of current and the development of future delivery systems. An inability to produce items such as solid rocket motors and advanced navigation and control systems would threaten our ability to maintain strategic platforms. Perishable skills and technologies are required to sustain current systems beyond their expected life span and to develop the systems required for the future. The FY2010 NDAA requirement to develop a SRM industrial base plan is an important step toward ensuring essential skills and capabilities in that portion of the deterrent industrial base, and we look forward to the results of the OSD led task force chartered to fulfill this direction. Sufficient funding to sustain a responsive industrial base is a critical element of maintaining the credibility of deterrence, and we ask for continued Congressional support.

GLOBAL STRIKE

A limited, credible conventional prompt global strike capability would provide the President a broader range of non-nuclear options to address emerging threats rapidly. However, we continue to lack the ability to promptly deliver conventional effects against targets in denied or geographically isolated areas. As we continue to make progress through Research, Development, Test, and Evaluation (RDT&E) subprojects, I ask for your continued support for a PGS capability that will be carefully sized to avoid perturbing our strategic relationships with Russia and China.

SPACE

Operations in the space domain continue to enable an increasing number of capabilities that are essential to military operations, as well as the U.S. and global economy. At the same time, events during the past few years have reminded the world that space is no longer a pristine or unchallenged domain, but one that is subject to consequential mishaps, whether malicious or unintended. This was apparent in the aftermath of last year's Iridium/Cosmos satellite collision, which removed any uncertainty about the destructive threat of space objects. We need sustained investment to provide comprehensive SSA, actionable collision avoidance (conjunction) analysis, robust on-orbit space constellations, and modeling and simulation capabilities.

The importance of SSA to effective and sustained space operations grows each day. Trackable space debris grows each time existing debris collides or breaks apart, new objects enter orbit, or our sensors improve to reveal increasingly smaller objects. Despite significant SSA investments and advances to ensure our freedom of action in space, debris growth (4,600 objects in 1980; more than 21,000 today) continues to outpace SSA upgrades. This places a new urgency on improving SSA sensors and the technical and human capital resources performing collision avoidance analysis. In addition to maintaining critical legacy capabilities, new investments must focus on sensors, data fusion, network linkages, and our human capital base.

Most of today's sensors reside on legacy missile-warning platforms in the northern hemisphere. This coverage remains important but is inadequate for today. We must continue to work with international partners to expand the few sensors that make up our current capability. Further, we must provide space operators the same situational awareness we expect in every other domain, along with the tools and information to operate and protect national assets. The next generation of SSA sensors will provide coverage from space itself—a new vantage point. The Space Based Surveillance System (SBSS) will provide such coverage, and we continue to support this important step forward.

A noteworthy SSA advancement began when Congress authorized the Air Force's pilot program on the desirability and feasibility of providing collision avoidance data to commercial and non-U.S. government partners. After the successful development of the Commercial and Foreign Entities (CFE) program, DoD transitioned operational responsibility for CFE from the Air Force to USSTRATCOM's Joint Functional Component Command for Space (JFCC Space) in 2009. JFCC Space's Joint Space Operations Center (JSpOC) at Vandenberg Air Force Base now provides important data to prevent collisions between satellites, manned space craft, and debris. In this effort, cooperative relationships between DoD and owner-operators are essential to developing behavioral norms for responsible space-faring nations. USSTRATCOM will continue to refine collision-avoidance measures, sponsor agreements with space-faring nations and commercial entities, and foster greater mutual support through allied and partner engagements.

Another consequential area of space interest lies in how we manage the sustainment of our current constellations. The past decade's strong focus on improving efficiency and cost effectiveness now threatens the uninterrupted delivery of several essential capabilities, as requirements for increasingly complex and efficient systems push delivery timelines to the

future, exhaust our stock of replacement vehicles, increase costs, and leave capabilities at risk. We worked closely in the last year with a variety of independent commissions, studies mandated by Congress, and DoD examinations that revealed shortfalls in capacity and capabilities in the next five to seven years. Program schedule delays, cost overruns, dwindling inventories, and over confidence derived from our highly successful launch record could create the circumstance where just a single launch failure creates a capability gap.

Lastly, effective 21st century space operations will depend on our ability to accurately model the environment and employ simulators for training our operators. Modeling and simulation capabilities provide operators the ability to experiment, fail, adjust, and try again with a mere fraction of the resources. Once a robust simulation capability exists, new and increasingly complex exercises can demonstrate successes and vulnerabilities, facilitate new tactics, techniques, and procedures, and dramatically expand our understanding of, and ability to operate within, the space domain. The ability to experiment with new platforms and capabilities will enhance U.S. freedom of action and further improve U.S. space operations in a way that further aligns space and space-based capability requirements with those in every other domain.

CYBERSPACE

Interest in the cyber domain grows daily. Most of this is positive, as technology connects the world and enables commerce, communication, transit, and research in ways never before imagined. The practical reality of Moore's Law[2] is a world where many technological platforms seem obsolete just as they are widely fielded. Unfortunately, as Secretary of State Clinton noted in January, "these technologies are not an unmitigated blessing." We can anticipate that adversarial actors will make cyberspace a battle front in future warfare. Even today, intrusions

[2] Moore's Law, named for Intel co-founder Gordon E. Moore, is the observation that processing speed and memory capacity for commercially available computers tend to double about every two years.

and espionage into our networks, as well as cyber incidents abroad, highlight the unprecedented and diverse challenges we face in the battle for information.

In May of 2009, the Administration finished a detailed Cyberspace Policy Review. It concluded that "the architecture of the Nation's digital infrastructure…is not secure or resilient" and "without major advances in the security of these systems or significant change in how they are constructed or operated, it is doubtful that the United States can protect itself." Both the White House's Cyberspace Policy Review and the Center for Strategic and International Studies (CSIS) Commission on Cybersecurity for the 44th Presidency concluded that national cyber security requires dramatically enhanced policy and operational coordination. These reports highlighted the need for a uniform, rapid, dynamic, and machine-speed approach. Such an approach demands a culture of responsibility and an "always-on" enterprise infrastructure to support global employment of our military forces.

USSTRATCOM is responsible for operating DoD information networks, planning against cyber threats, advocating for new capabilities, and coordinating with other commands and Agencies. I noted last year that cyberspace is our least mature line of operation, and it is likely to remain so for some time, as cyberspace presents new and unique challenges and opportunities. Cyber operations revolutionize the way we move information, conduct commerce, and fight wars. We have had technological revolutions before, most notably a century ago when people first took to the skies. Some wondered why we would ever need to fly, but no one today can imagine life without air travel or national security without air forces. In the 1970s, few people felt they would ever need a personal computer, but a network outage today is a serious concern for the largest corporations, the smallest businesses, and most American households. Just as the U.S. mastered the air domain, we will continue to strive to preserve our freedom of action in cyberspace.

Significant change seldom comes without a seminal event. In the strategic and space arenas, we have experienced nuclear procedure issues, the Iridium-Cosmos satellite collision, and China's Anti-Satellite (ASAT) weapon tests. Last year, the cyberspace domain had just such an event as DoD information networks experienced a serious intrusion, resulting in a ban on removable media and other corrective actions. The event identified best practices and shortcomings in network security procedures and hardware accountability, causing us to ask not just what we knew about network health but how we knew it—and whether that information was reliable. Our forces developed new network monitoring and evaluation systems and grappled with the security needs of sprawling networks where low cost and efficiency have often taken priority over security. Cyberspace weaves through our lives in ways that make network problems a concern for everyone. Each and every individual user is a critical element of cyber defense.

Our national defense capabilities are now underpinned by the assured availability of the enterprise IT infrastructure and our command–and-control and information-sharing systems. These constitute the DoD information networks. USSTRATCOM must continue to defend while actively improving DoD information networks—interdependent imperatives—with new and expanded cyber capabilities. The networks requires improved defense-in-depth measures from the perimeter down to individual users, like the Host-Based Security System (HBSS), and a shareable, common operating picture that allows for the free flow of information among the combatant commanders, Services, and Agencies.

Additionally, we require continued Congressional support for critical DoD programs and initiatives through which we build, operate, harden, and assure robust and resilient command-and-control and information-sharing systems. These programs and initiatives include globally

diverse terrestrial and satellite communications networks, emerging commercial satellite communication capabilities, and the globally available enterprise IT services that reside on them.

GLOBAL SYNERGY – Joint Enabling Missions

INTEGRATED MISSILE DEFENSE

Many rogue actors consider terror, blackmail, and weapons of mass destruction to be increasingly attractive capabilities. The recently completed BMDR notes the growing threat of ballistic missiles as they become more flexible, mobile, survivable, reliable, and accurate from greater ranges. Countering the growing desire among many states for such cost-effective weapons and symbols of national power requires sustained and carefully designed missile defense investments.

As the lead combatant command for missile-defense advocacy, USSTRATCOM continues to work closely with the Services, Missile Defense Agency, and the Missile Defense Executive Board (MDEB) to shape investments. Improvements in sensor and shooter platforms, including upgrades to the Aegis weapon system and Standard Missile-3 (SM-3), production of the Terminal High Altitude Area Defense (THAAD) system, and fielding of the AN/TPY-2 forward-based X-band radar provide more effective capabilities for our geographic combatant commanders. However, these advances have required an increased focus at USSTRATCOM and within the MDEB and Global Force Management processes on how best to satisfy the requirements of multiple geographic combatant commanders while appropriately balancing theater and homeland defense efforts. Strong Congressional support is enabling the rapid fielding of regional systems.

One of the most significant recent missile defense developments is the Administration's Phased Adaptive Approach (PAA) to missile defense. Given necessary funding and timely fielding, PAA offers an effective and flexible way to address the growing Iranian threat. PAA

also addresses the most urgent threats first with proven, cost-effective platforms as we continue to defend our forward-deployed forces and allies. It also requires that missile defense becomes an increasing part of our international cooperation efforts. The total effect of PAA will provide significantly more capability to counter today's regional threats and improve our ability to defend the United States against any future Iranian ICBM.

A defensive system, however, will be ineffective if not supported by accurate and timely warning and intelligence. Ballistic missiles and space launch vehicles share significant similarities, making launch characterization—the ability to rapidly determine a vehicle's ballistic or orbital trajectory and therefore its intent—essential to recommending appropriate pre-launch postures and post-launch actions. USSTRATCOM's ongoing efforts to refine this capability include sensor and communications upgrades and analytical expansion. As noted above, we face ongoing challenges to sustaining our missile warning constellation's long-term health. The SBIRS geostationary orbit satellite constellation is critical to any missile defense architecture. Additionally, the two Space Tracking and Surveillance System (STSS) demonstrator satellites launched in late 2009 will validate key concepts for a future missile defense satellite constellation. The STSS has the potential to greatly improve our ability to detect, track, and defeat ballistic missiles.

COMBATING WEAPONS OF MASS DESTRUCTION (CWMD)

The specter of weapons of mass destruction (WMD) in the hands of terrorists poses a threat to the United States, our allies, and global security at large. USSTRATCOM is responsible to synchronize DoD-wide planning for counter-WMD (CWMD). Our CWMD campaign plan framework, detailing linkages between military strategic objectives and desired effects, has become the CWMD planning standard for geographic combatant commands.

To further enhance regional combatant commander and interagency planning, USSTRATCOM has developed a Joint Elimination Coordination Element in order to support WMD elimination efforts. This unit will also support DoD efforts to establish a Joint Task Force-Elimination headquarters to provide specialized command and control for WMD elimination operations. Additionally, USSTRATCOM has advanced the development of the Interagency CWMD Database of Responsibilities, Authorities, and Capabilities (INDRAC) system to inform planning, training, advocacy, and other partnerships across the government. Further, we lead semiannual Global Synchronization Conferences to enhance CWMD planning across other commands, the broader whole of government, and our key allies and partners.

To improve the nation's existing capabilities for nuclear forensics and attribution, we are sponsoring a Joint Capabilities Technology Demonstration (JCTD) for National Technical Nuclear Forensics (NTNF). It is designed to improve existing air- and ground-sample collection capabilities. In coordination with U.S. Joint Forces Command, we have conducted a series of experiments to determine the best uses of active interrogation technology to extend the detection ranges of our nuclear and radiological passive detectors. DoD has proposed additional CWMD funding in its Fiscal Year 2011 budget for DoD nonproliferation, counterproliferation, and consequence management programs to accelerate the closure of capability gaps. This additional funding would be applied to nuclear and biological threat reduction; combating nuclear terrorism; nuclear search, detection, and forensics; technical reachback and planning support for the combatant commanders; and integration of CWMD technical, operational, and intelligence expertise for improved WMD threat anticipation and response. We fully support these investments and the efforts of the Defense Threat Reduction Agency (DTRA).

Finally, the USSTRATCOM Center for Combating WMD (SCC WMD) plays a key role in the Proliferation Security Initiative (PSI), a proven counterproliferation architecture. This past

year SCC WMD supported the embedding of PSI activities into a number of combatant commands' exercise programs, developed international PSI training scenarios, and published the first PSI exercise planning handbook. We look forward to accelerating exercise engagements and increasing our focus on potential sources of proliferation.

INFORMATION OPERATIONS

With the exception of psychological operations (PSYOP), USSTRATCOM plans, coordinates, supports, and advocates for information operations (IO) across geographic combatant commands' areas of responsibility. We execute these responsibilities through our joint components: JFCC NW and JTF GNO for cyber operations; and the Joint Information Operations Warfare Center (JIOWC) for electronic warfare (EW), military deception (MILDEC), and operational security (OPSEC).

This year, we will participate in reviews of joint and Service doctrine to evaluate and assess how we conduct warfare in the information environment. Additionally, we are conducting a Strategic Communication Capabilities Based Assessment (CBA), as tasked by the JROC. This CBA will identify requirements and capability gaps among the combatant commands and Joint Staff, including perspectives from the intelligence community, in order to standardize terminology and to resource appropriate DoD strategic communication capabilities.

A wide range of military operations depend on unfettered access to the electromagnetic spectrum. For several decades, forces have taken advantage of relatively uncontested access to the electromagnetic spectrum, but spectrum requirements are growing not only for DoD missions but across Federal agencies, state, and local governments and commercial industry. Further, rapidly expanding spectrum usage and technology evolution now threaten to impede our ability to conduct successful military operations. As regions of the spectrum continue to be crowded by commercial and scientific entities and other nations, the warfighter's electromagnetic maneuver

space will become more restricted. Future spectrum policy and use must carefully consider and balance national and economic security interests to enable commercial growth while protecting the equities of DoD and federal agencies.

To address these accessibility concerns and to preserve essential information transfer capabilities, the JROC approved the USSTRATCOM EW CBA. USSTRATCOM also produced a follow-on Initial Capabilities Document (ICD) that identified capability gaps and potential solutions. The ICD also emphasized the need for focused leadership in the EW area and a comprehensive joint investment strategy. In the coming year, and in conjunction with federally funded research and development centers, USSTRATCOM and U.S. Joint Forces Command will study approaches to responding to emerging electromagnetic threats. This review is intended to identify organizational and management approaches that will enable timely, prioritized, and effective EW resourcing decisions.

INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE

Over the past decade, geographic combatant commanders' requirements have increased ISR demand, as highlighted in Iraq and Afghanistan. New and irregular threats reshaped the battlefield and the information required to operate successfully. Today, rapidly increasing capabilities to support the warfighter remain a key geographic combatant commander priority. Determining the appropriate ISR force size is important, given limited resources and dynamic theater needs. USSTRATCOM is leading efforts to develop an ISR force-sizing construct for the Department. This initiative will develop a sound analytical foundation for future ISR allocation and procurement decisions.

To date, DoD has rapidly expanded ISR platform acquisition and fielding, thereby broadening theater access to intelligence. To complement this initiative and as a key facet to meeting the rising demand for ISR products, DoD is also expanding our processing, exploitation,

and dissemination (PED) capabilities. Rapid collection-capability growth challenges our ability to transform raw data into information of intelligence value and to disseminate it to combat forces in a timely fashion. USSTRATCOM continues to advocate for needed PED capabilities with the Services and combat-support agencies and is also developing methods to align ISR allocation with PED capacity to ensure collection effectiveness and to better integrate existing resources. Finally, new assets and new challenges require bases from which to access many regions, such as USAFRICOM's Camp Lemonnier, Djibouti. This important facility deserves sustained support because it provides access to multiple countries and the Horn of Africa while enabling the employment of air and naval assets supporting DoD operations in the region.

As new ISR capabilities come on line, we must transition legacy capabilities to new systems. The Air Force has fielded the first Global Hawk in theater, but challenges remain before it could replace today's U-2 capability. Chief among these is sufficient wideband satellite communications to permit necessary throughput in the Global Hawk communications architecture. USSTRATCOM is working to make sure that a comprehensive communications capability is capable of providing worldwide support prior to the U-2 retirement.

Whether making carefully nuanced deterrence recommendations, evaluating space capabilities, understanding the new and dynamic cyberspace domain, or sustaining our superior strategic capability knowledge base, intelligence provides operational context fundamental to every commander's decision calculus. Since I assumed command of USSTRATCOM in the fall of 2007, my intelligence directorate has done tremendous work using limited resources to support our three lines of operations and our enabling missions. Recently, we received a modest but essential increase in intelligence billet authorizations to establish the USSTRATCOM Joint Intelligence Operations Center (JIOC). This important investment will increase our headquarters capabilities to provide the level of strategic intelligence we require and to distribute appropriate

capabilities to several of our components. We are also working with the Office of the Under Secretary of Defense for Intelligence to establish a second Joint Intelligence Operations Center to support USCYBERCOM. We appreciate continued Congressional support for these initiatives.

CONCLUSION

USSTRATCOM continues to enhance our ability to deliver global security for America each and every day. We have re-emphasized the importance of our nuclear deterrence mission and proven America's long held confidence in our nuclear forces, while also expanding capabilities crucial to operating in the space and cyberspace domain. We enable many space-based and cyberspace capabilities essential to military operations and daily life by sustaining our freedom of action in these domains. USSTRATCOM's uniquely global missions support national objectives, whole-of-government solutions, regional requirements, and enhanced cooperation with our international partners. While many challenges remain in our increasingly interconnected and rapidly changing world, USSTRATCOM is fully engaged to address them. We greatly appreciate the support of the Congress.

WITNESS RESPONSES TO QUESTIONS ASKED DURING THE HEARING

MARCH 16, 2010

RESPONSE TO QUESTION SUBMITTED BY MR. LANGEVIN

Dr. MILLER. Representatives from OSD Policy and the Joint Staff are working with the House Armed Services Committee staff to schedule a briefing for professional staff members early in April 2010. That briefing will show the notional coverage footprints of each phase of the European Phased, Adaptive Approach. [See page 13.]

RESPONSES TO QUESTIONS SUBMITTED BY MR. LARSEN

General CHILTON. The FY 2011 President's Budget (PB) begins a multi-year funding increase for critical plutonium and uranium infrastructure improvements needed to sustain stockpile credibility. It is critical that we complete these projects as soon as possible. NNSA plans call for achieving full operations at the Chemistry and Metallurgy Research Replacement, Nuclear Facility (CMRR–NF) and the Uranium Processing Facility (UPF) by 2022.

Refurbishment of Plutonium Facility 4 (PF–4) in Technical Area 55 (TA–55) is one of two critical components required to support plutonium processing. The FY11 NNSA Plutonium Sustainment ($190M) and TA–55 Reinvestment Project ($20M) budget lines reflect needed PF–4 funding for safety improvements and configuration modification to improve manufacturing efficiencies.

Completion of CMRR–NF is required to provide plutonium R&D and analytical capabilities in support of surveillance and stockpile management. It will also support nuclear non-proliferation and disarmament, arms control treaty monitoring, nuclear forensics and counterterrorism, and emergency response capabilities. The CMRR–NF FY11 budget request of $225M funds design completion and begins construction. When complete, activities that were transferred from closed portions of the aging CMR facility to PF–4 will move to CMRR–NF. This should free space within PF–4 needed to meet stockpile management capacity requirements.

The FY11 PB request of $115M for UPF at Y–12 funds design and construction planning activities. When complete, the UPF will support production, surveillance, and dismantlement of highly enriched uranium components. [See page 24.]

Dr. MILLER. Funding for nuclear weapons facilities infrastructure is in the National Nuclear Security Administration (NNSA) budget. The President's FY2011 budget request for the NNSA includes the following for Chemistry and Metallurgy Research Replacement (CMRR) construction specifically and total NNSA new facility construction projects for FY 2010–2012:

	FY 2010 Appropriated $M	FY 2011 Request $M	FY 2012 Out-year Target ($M)
CMRR Construction	$97.0M	$225.0	$305.0
Total for all NNSA Construction Projects	$303.9	$399.0	$542.3

The Department of Defense (DOD) has reviewed the budget information for the major NNSA construction projects. This budget starts the recapitalization of nuclear facilities that are essential to support DOD requirements.

The NNSA will deliver its Stockpile Stewardship and Management Plan to Congress in spring, 2010. This document will identify a plan for evolving and sustaining the nuclear stockpile. [See page 24.]

RESPONSE TO QUESTION SUBMITTED BY MR. BISHOP

General CHILTON. Our entire strategic defense enterprise faces industrial base sustainment issues. Unfortunately, solid rocket motor industry concerns are more acute because of the significant expected reduction in defense and NASA demand for these propulsion systems in the coming years. As you know, when an industry faces reduced demand, substantial downsizing in capacity generally follows. As the Combatant Commander responsible for strategic deterrence, I am concerned with

the prospect of an irrevocable loss of sufficient capacity to recapitalize systems which rely on solid rocket motor propulsion.

The Navy and Air Force have taken different approaches to ensuring they have sufficient capacity to recapitalize their force structure. The Navy has stated confidence that their low-rate D5 missile production model, delivering a planned 12 missiles annually, will ensure production skills are protected into the future. While I cannot comment on how many Air Force motor production units is sufficient to sustain industrial capacity, the Air Force FY11 budget submission does not make a similar a long-term commitment to help preserve solid rocket motor production and related industrial capacity.

The Air Force is developing a plan to protect sufficient capacity to recapitalize the Minuteman force, and I look to their FY12 POM submission to articulate and adequately resource such a plan to meet this critical need. [See page 30.]

RESPONSES TO QUESTIONS SUBMITTED BY MR. FRANKS

Dr. MILLER. The Airborne Laser (ABL) program was transitioned from a weapons acquisition program to a technology demonstration test-bed because of affordability concerns, and serious questions about the survivability and military utility of the ABL. On February 11, 2010, the ABL had a successful test where it destroyed a boosting ballistic missile. The successful test validates the decision to preserve the ABL test-bed program as a pathfinder for the Nation's directed-energy program.

In the FY2011 budget request, directed energy research programs are funded for $98.7 million in the Missile Defense Agency budget. This includes funding for solid-state laser technology that is showing promise. Solid-state lasers would have much higher power than the current chemicalbased lasers in a much smaller package. This could allow laser technology to be used on more survivable and operationally practical platforms. [See page 37.]

Dr. MILLER. USSTRATCOM supports the continued research and development of directed energy projects, although the actual technology development is not a combatant command responsibility. For the Airborne Laser Test Bed (ALTB), USSTRATCOM stands ready to make recommendations for possible emergency activation of the ALTB if we believe it could prove effective in an emerging crisis.

This revolutionary technology holds the most promise for boost-phase intercept and to address different raid sizes, and it offers an offsetting strategy from a missile vs. missile approach, which is cost imposing. [See page 38.]

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

MARCH 16, 2010

QUESTIONS SUBMITTED BY MR. LANGEVIN

Mr. LANGEVIN. Section 912 of the National Defense Authorization Act for Fiscal Year 2010 made permanent the pilot program that has allowed the Department to provide space situational awareness information to non-U.S. government entities. This statute also contained additional protections for those non-U.S. government entities that might provide data to the U.S. Given STRATCOM's responsibility for this so-called "commercial and foreign entities program," and for space situational awareness in general, could you provide the committee with an update on your efforts to implement this statute?

General CHILTON. USSTRATCOM assumed responsibility for sharing space situational awareness from the USAF in December 2009. We transitioned the existing services which consist of 1) catalog and satellite information posted to the www.space-track.org Web site, and 2) SSA services under a sharing agreement that offers conjunction assessment support (predictions of close approaches between satellites) and launch support (closure windows to avoid collisions with orbiting objects, and early orbit satellite for launching satellites). Additionally, we offer additional services to entities which includes conjunction assessment support to satellite maneuver planning, re-entering and deorbiting objects, and disposal and end-of-life operations. We also support anomaly resolution and interference resolution when it is in the national security interest, and when resources are available.

We are evaluating the spectrum of services we offer, and the quality and utility of that information. We are in the process of finalizing efforts to provide more detailed conjunction assessment predictions that will enable satellite operators to refine their probability of collision calculations and afford them more information to support their decision to maneuver or not. A goal is to reduce the number of unnecessary satellite avoidance maneuvers conducted. Additionally, we submitted a request to the Chairman of the Joint Chiefs of Staff for the authority to negotiate and conclude SSA sharing agreements with non-U.S. governments. The AFSPC pilot program did not support requests from foreign governments. Our request is currently in interagency coordination. Once approved, we will engage with Allies and other nations and intergovernmental organizations to establish SSA sharing agreements to provide them services to promote safe spaceflight, and to receive SSA information in return to improve USG SSA.

Mr. LANGEVIN. What, in your view, are the most important steps the U.S. needs to take to improve our Space Situational Awareness capabilities?

General CHILTON. Our current Space Situational Awareness (SSA) is inadequate and thus impacts the ability of USSTRATCOM to predict, detect, and characterize orbiting objects and to attribute anomalies and attacks on space systems. We must implement several investment strategies to meet our SSA requirements and thus enable access to and freedom of action in this domain.

We must first continue our investment in the critical legacy elements that include service life extensions, maintenance, and upgrades of the dedicated, collateral, and contributing sensors of our Space Surveillance Network. Secondly, USSTRATCOM will advocate for prudent investments in future capabilities like Space Based Space Surveillance, Space Fence, Space Surveillance Telescope, and Joint Space Operations Center (JSpOC) upgrades to ensure more accurate, timely, and operationally relevant SSA.

Finally, we must continue working with satellite owners/operators who share orbital information on their satellites in order to automate the exchange of satellite positional information. We will leverage the JSpOC Mission System program to foster collaborative data-sharing across USG Agencies and Departments, our allies, and the commercial sector to enhance global coverage and awareness, which improves our ability to combine a space operational picture with effective C2 systems.

Mr. LANGEVIN. Yesterday, the Department of Defense and the Office of Director for National Intelligence delivered to the committee an interim Space Posture Review. And you have testified that you are nearing the completion of the Nuclear Posture Review. Can you give us any insight into how, as you think about deterrence against 21st century threats, the Administration plans to achieve deterrence in space?

Dr. MILLER. Deterrence in space domain, as elsewhere, depends on a combination of denying the hoped for benefits and increasing the costs to a would-be attacker, and effectively communicating both capabilities and intent. The potential benefits of attacking U.S. space systems can be reduced, for example, by increasing systems' survivability and resilience, by having complementary capabilities (e.g., air-breathing systems), and being prepared to operate with denied or degraded access to space for some period of time.

Achieving deterrence in space against 21st century threats requires a whole-of-government approach. The Administration is currently reviewing the existing (2006) national space policy. The resulting revision of this national policy will seek to synchronize the broad U.S. equities in space, spanning national security, diplomacy, science, and commerce.

Building from this new national space policy, DOD and the Office of the Director of National Intelligence (ODNI) will develop a National Security Space Strategy (NSSS). The NSSS effort is intended to help us better align the ends, ways, and means to succeed in the congested, contested, and competitive space environment.

Concurrent with NSSS development, DOD is continuing to develop concepts for best practices in space, and in May 2010 the Air Force is conducting a "Schriever" series war game that will include a simulated Code of Conduct to assess the operational implications of a voluntary Code. "Schriever" series outcomes will bolster NSSS development and address questions of rules of the road/codes of conduct and declaratory policy.

Mr. LANGEVIN. Specifically, can you talk about how we might deter others from holding our space systems at risk? How might we respond to attacks against our space assets, and how do we manage the risk of escalation?

Dr. MILLER. Deterring others from holding our space systems at risk, and managing escalation risk if the situation warrants it, require a whole-of-government approach. The Administration is currently reviewing the existing (2006) national space policy. The resulting national space policy will seek to synchronize the broad U.S. equities in space, spanning national security, diplomacy, science, and commerce.

Building from this new national space policy, DOD and the Office of the Director of National Intelligence (ODNI) will develop a National Security Space Strategy (NSSS). This effort, building upon the findings of the interim Space Posture Review, will help us better align the ends, ways, and means to succeed in the congested, contested, and competitive environment of space.

Deterrence in space domain, as elsewhere, depends on a combination of denying the hoped for benefits and increasing the costs to a would-be attacker, and effectively communicating both capabilities and intent. The potential benefits of attacking U.S. space systems can be reduced, for example, by increasing systems' survivability and resilience, by having complementary capabilities (e.g., air-breathing systems), and being prepared to operate with denied or degraded access to space for some period of time.

U.S. responses to any attacks on our space systems would, as in other domains, be consistent with the Law of Armed Conflict, including proportionality and discrimination. Such responses may or may not be limited to the space domain. The risk of escalation would have to be considered in the specific context on the conflict at hand.

QUESTIONS SUBMITTED BY MR. THORNBERRY

Mr. THORNBERRY. General Chilton, in your testimony you state that, "Increasing the safety, security, and long-term confidence in the U.S. nuclear arsenal remains a top priority." Last November, the Global Security Newswire quoted you as calling our current nuclear weapons complex infrastructure "inadequate;" and, citing last year's Perry-Schlesinger Report, "genuinely decrepit." Can you elaborate on your statements and discuss, in your view, the current state of the weapons complex and what you see as key challenges and shortfalls with complex infrastructure modernization?

General CHILTON. I agree with the Nuclear Posture Review conclusion that today's nuclear complex ". . . has fallen into neglect." Facilities that process plutonium and uranium date back to the Manhattan Project era. They have emerging safety, security and environmental concerns and are subject to unplanned shutdown with no backup capability. In addition, the skilled human capital base has been underdeveloped over the last decade making it difficult to attract and retain the best and brightest scientists and engineers. A strong national commitment to sustaining warheads and nuclear technical capabilities is essential to counter these trends. A modern nuclear infrastructure and highly skilled workforce is consistent with our na-

tion's arms control and nonproliferation objectives and can provide the capability to respond in a timely manner to technical or geopolitical surprise. Investments outlined in the 2011 President's Budget request will strengthen the science, technology and engineering base and begin to address physical infrastructure and human capital problems.

Mr. THORNBERRY. General Chilton, U.S. Cyber Command was recently set up as a sub-unified component of U.S. Strategic Forces Command. What is the role of the U.S. military in cybersecurity, computer network attack, defense, and exploitation? When should America act under Title 50 authorities, and at what point Title 10? How does the War Powers Act affect the use of force in cyberspace? The U.S. military's #1 priority is homeland defense; should the military defend America's networks, even private networks?

General CHILTON. The military is responsible for the operation, security, and defense of Department of Defense networks. If directed by the President or Secretary of Defense, the military will support other executive agencies and departments in the defense of non-Department information networks and infrastructure. Further, the military is responsible for fielding offensive cyberspace capabilities, and as directed by the President or Secretary of Defense, employing those capabilities as traditional military activities.

The armed forces leverage the intelligence community for all source intelligence, including computer network exploitation, in accordance with the National Intelligence Priority Framework and in support of combatant commander requirements. These foreign intelligence activities are reportable to Congress under Title 50. The terminology "Title 10" and "Title 50" are frequently used to describe the division between military operations and intelligence community activities. This is not an entirely accurate characterization, as Title 10, entitled "Armed Forces" and Title 50, entitled "War and National Defense" both contain wide-ranging laws covering their respective topics—both of which are directly connected to military operations. Neither Title 10 nor Title 50 contain any specific reference to the use of cyberspace for cybersecurity, computer network attack, defense, or exploitation. As to the division of intelligence activity, Title 50 contains a section that broadly assigns different intelligence activities to the National Security Agency, National Geospatial-Intelligence Agency, National Reconnaissance Office and Defense Intelligence Agency (all DOD organizations). The section ends, however, noting "the military departments maintain sufficient capabilities to collect and produce intelligence" to meet the requirements of, among other needs, "the requirements of the unified and specified combatant commands and of joint operations." Clarification of this division of authorities and responsibilities come from a variety of documents, perhaps most notably, Executive Order 12333, addressing U.S. intelligence activities, but also a number of other documents, including, among others, Department of Defense Instructions, Directives, and Manuals, the Unified Command Plan, and the Standing Rules of Engagement.

The constitution gives the President authority for both sets of activities—military operations and foreign intelligence activities. In cyberspace there is the potential for some overlap, as "computer network exploitation," an activity conducted by the National Security Agency is vital to conduct of military operations under "computer network defense" and also "computer network attack." It is also very similar to the military mission of "operational preparation of the environment." Dual hatting the commander of U.S. Cyber Command as the Director of the National Security Agency, has allowed close integration of these two organizations, allowing them to appropriately leverage each other to fulfill national security requirements.

As to the War Powers Resolution, 50 USC 1541 et seq., by its own terms it "will apply to the introduction of the United States Armed Forces into hostilities, or into situations where imminent involvement in hostilities, is clearly indicated by the circumstances, and to the continued use of such forces in hostilities or in such situations." 50 USC 1541(a).

Further, "The constitutional powers of the President as Commander-in-Chief to introduce United States Armed Forces into hostilities, or into situations where imminent involvement in hostilities is clearly indicated by the circumstances, are exercised only pursuant to (1) a declaration of war, (2) specific statutory authorization, or (3) a national emergency created by attack upon the United States, its territories or possessions, or its armed forces." 50 USC 1541(c).

Pursuant to this Act, Congress passed the "Authorization for use of military force against those responsible for attacks launched against the United States on Sept. 11, 2001." This authorization, pursuant to the War Powers Act, provides in relevant part: "[t]he President is authorized to use all necessary and appropriate force against those nations, organizations, or persons he determines planned, authorized, committed, or aided the terrorist attacks that occurred on September 11, 2001, or

harbored such organizations or persons in order to prevent any future acts of international terrorism against the United States by such nations, organizations or persons." This can be seen as Congressional approval of our military operations in our on-going fight against terrorism. Current efforts in cyberspace play an important role in this struggle against our adversaries, a role that is consistent with the Congressional authorization under the War Powers Resolution.

The Department of Homeland Security (DHS) is responsible for the defense of non-DOD Federal networks and coordinating with private industry and providers for the defense of the private networks. U.S. Strategic Command, and the Department of Defense, supports the defense of critical infrastructure networks in response to a request for assistance from DHS. That assistance could include technical assistance and recommendations for immediate defensive actions; as well as technical assistance and recommendations for more systemic mitigation, such as improvements in network configurations and improvements in information assurance measures or best practices.

Mr. THORNBERRY. Dr. Miller, U.S. Cyber Command was recently set up as a sub-unified component of U.S. Strategic Forces Command. What is the role of the U.S. military in cybersecurity, computer network attack, defense, and exploitation? When should America act under Title 50 authorities, and at what point Title 10? How does the War Powers Act affect the use of force in cyberspace? The U.S. military's #1 priority is homeland defense; should the military defend America's networks, even private networks?

Dr. MILLER. To first consider cybersecurity and network defense, the U.S. military will defend and secure its networks and systems to ensure that our forces are able to conduct their operations and missions with access to and use of cyberspace. The security of the U.S. military's networks requires a whole-of-a-government approach. We need to build robust relationships with interagency, industry, and international partners. DOD is working closely with the President's Cybersecurity Coordinator, and with our interagency partners as we develop a way forward on cyber issues. DOD is also collaborating with the private sector, through two main channels: the Enduring Security Framework and the Defense Industrial Base. The Enduring Security Framework is a public-private partnership between the Director for National Intelligence, DOD, the Department of Homeland Security, and the private sector; its goal is to provide a permanent forum for USG-industry dialogue. The Defense Industrial Base offers another platform for public-private partnerships; it is a critical infrastructure partnership council established by DOD to facilitate coordination between USG critical infrastructure programs and private sector owners and operators.

DOD conducts military operations and intelligence activities, including those in cyberspace, under Title 10 and Title 50 authorities, respectively. USCYBERCOM's mission focuses on Title 10 military activities: "USCYBERCOM plans, coordinates, integrates, synchronizes, and conducts activities to: direct the operations and defense of specified Department of Defense information networks and; prepare to, and when directed, conduct full-spectrum military cyberspace operations in order to enable actions in all domains, ensure US/Allied freedom of action in cyberspace and deny the same to our adversaries." The National Security Agency's mission will not change as it will both continue to protect U.S. national security systems through information assurance and through the production of foreign signals intelligence information. The NSA capabilities will help enable USCYBERCOM to direct the operation and defense of the DOD information networks and conduct full-spectrum military cyberspace operations.

Whether DOD acts under Title 10 or Title 50 depends upon the nature of the operation or activity being executed. DOD does not engage in covert action, as defined by 50 U.S. Code § 413b(e). Assuming that all are otherwise legally available and appropriate options, it is the President's option to conduct appropriate military activities in cyberspace under Title 10 or Title 50 authorities, and/or to direct covert action under Title 50.

Cyber capabilities are much like any other DOD capability or weapon, i.e., they may be employed in support of the deployment and operation of U.S. Armed Forces around the world. Their use alone, however, does not implicate the provisions of the War Powers Resolution.

How and when the U.S. military acts is at the discretion of the President. The Department of Defense will provide the support directed, requested or required to defend the United States and its assets, whenever and wherever required, at the direction of the President. There are mechanisms in place to provide Defense Support to Civil Authorities, under which the Department is able to provide support requested by the Department of Homeland Security to help defend and secure those assets determined to be vital to National Security.

QUESTIONS SUBMITTED BY MR. LAMBORN

Mr. LAMBORN. Our potential adversaries have shown the capability and willingness to deny our forces access to satellite communications either through the use of anti-satellite weapons or communications jamming. While anti-satellite technology is a very real threat, proven by China's January 2007 shoot down of one of their aging satellites, the technology to interfere with satellite communications is simple and readily available worldwide from any local Radio Shack store. What specific measures has STRATCOM taken to ensure missile defense command and control in a satellite communications denied environment? I understand if parts of your answer are classified, but I encourage you to share what you can with this committee today and in classified follow-ups.

General CHILTON.

[The information referred to is classified and retained in the committee files.]

Mr. LAMBORN. In 2004, STRATCOM conducted a Military Utility Assessment (MUA) of the initial set of Ground-based Missile Defense (GMD) capabilities deployed in California and Alaska to determine their militarily effectiveness. How confident are you in current GMD system capabilities? Do you have any plans to conduct another MUA of the GMD system? If so, when do you expect to have the MUA completed?

General CHILTON. I am confident the current GMD system provides sufficient capability to protect the U.S. from a North Korean threat. Version 2009 (fifth version) of the Ballistic Missile Defense System MUA was completed 5 Aug 2009 and subsequently forwarded to SecDef via Chairman of the Joint Chiefs of Staff. Version 2010 (sixth version) of the Ballistic Missile Defense System MUA is in the final stages of staffing and expected to be completed by August 2010.

Mr. LAMBORN. What is our national and military policy if our space assets are attacked? How have military operational plans and contingency plans changed to reflect the possibility that those satellites may be unavailable during times of crisis and war?

Dr. MILLER. The United States considers space systems to have rights of passage through, and operations in, space without interference. This is consistent with U.S. law, applicable international law including the 1967 Outer Space Treaty, and existing (2006) national space policy. The United States views purposeful interference with its space systems as an infringement on its rights and will take those actions necessary to preserve its freedom of action in space. The United States reserves the right to take the full range of appropriate responses, including military action as consistent with the Law of Armed Conflict.

The Administration is reviewing the 2006 national space policy and will update Congress accordingly on any changes. On 15 March 2010, the Department of Defense (DOD) provided Congress with an "Interim" Space Posture Review, which provided our initial thinking on national security equities in space.

The DOD is addressing the possibility that space systems may be unavailable during times of crisis and war via its operational and contingency planning processes. Numerous war games, such as the "Schriever" wargame series (the sixth in the series will be conducted in early May 2010) have shown that testing ourselves in a framework of diminished access to space is an important part of our strategy development. Each of the Services conducted a "day without space" study to understand the impact of losing critical space capabilities; the results were stark and highlight the importance of your question.

The DOD is currently working with the office of the Director of National Intelligence to develop a National Security Space Strategy that will provide a basis for further delineating guidance for space-related plans and programs.

Mr. LAMBORN. Do we have clear red lines or thresholds for attacks against our space assets? What are the merits of a declaratory policy that signals our intent and lays out consequences? Do you see merit in establishing international rules of the road and/or codes of conduct in space?

Dr. MILLER. The United States stated that space systems have rights at passage through, and operation in, space without interference. Our current national Space Policy states that our space capabilities are vital to our national interests, and we will preserve our rights, capabilities and freedom of action in space, including if necessary military action as consistent with the Law of Armed Conflict.

There may be merits in employing voluntary, non-treaty approaches (e.g., international rules of the road and/or a code of conduct) for the space domain. Over the past two years, the United States engaged in dialogue with European experts regarding the European Union's proposal for a "Code of Conduct for Outer Space Activities." In addition, the United States is participating in a multi-year study of "long-term sustainability of space activities" within the United Nations Committee

on the Peaceful Uses of Outer Space. This study is examining the feasibility of voluntary "best practice guidelines" to help reduce operational risks to all space systems; it should serve as a valuable cooperation opportunity with established and emerging members of the space-faring community and with the private sector to enhance spaceflight safety and preserve the space environment for future generations. In addition, the Department of Defense (DOD) is continuing to develop concepts for best practices in space, and in May 2010 the Air Force is conducting a "Schriever" series wargame which will include a simulated Code of Conduct to assess the operational implications of a voluntary Code.

The DOD is currently working with the office of the Director of National Intelligence to develop a National Security Space Strategy, which will further address questions of rules of the road/codes of conduct, and declaratory policy.

QUESTIONS SUBMITTED BY MR. BISHOP

Mr. BISHOP. The Air Force FY11 proposed budget only provides $46 million for production of three Minuteman III (MMIII) motor sets as its "Warm-Line" effort to sustain MMIII begins. The Air Force's current Five-Year Defense Plan (FYDP) only provides $10 million in FY12, and $0 in FY13 for MMIII warm line. The imperiled Solid Rocket Motor (SRM) industry maintains that 6 motor sets for MMIII is the bare minimum required to sustain a viable MMIII warm line, which is fewer than the 12 D–5 ICBM motors that are currently produced annually under the Navy's comparable warm-line effort. What is your opinion on what the proper level of Air Force funding is required in FY11 and in the FYDP to adequately sustain the MMIII weapons system and its SRM industrial base?

General CHILTON. U.S. Strategic Command has not done analysis to assess funding required to adequately sustain a viable SRM Warm-line. However, looking ahead, we do anticipate new challenges across the industrial base which could impact both the capacity and costs associated with supporting the Minuteman III in the future. Secretary Carter's AT&L-led task force study on the SRM industrial base will inform our investment strategy to ensure we can meet the nation's strategic propulsion needs.

Mr. BISHOP. Specifically, how many MMIII motor sets do you believe are minimally necessary to adequately sustain the warm line and the SRM industrial base?

General CHILTON. I do not have an opinion regarding what production level is adequate to sustain the SRM industrial base. However, given the complexity associated with solid rocket motor technology, we cannot afford to lose the expertise required to recapitalize our deterrent force in the future. Secretary Carter's AT&L-led task force study on this issue will inform our investment strategy to ensure we can meet the nation's strategic propulsion needs.

Mr. BISHOP. How important is maintenance of a viable SRM industrial base to the strategic and military interests of the United States, particularly in light of the Administration's decisions to terminate NASA's Constellation and Ares 1 and Ares 5 rockets, and last year's decision to also terminate the Kinetic Energy Interceptor (KEI) and Ground Midcourse Defense (GMD) ground-based missile interceptor programs, which, when combined with the end of the Space Shuttle program, the end of MMIII Propulsion Replacement program, and the total lack of any new ICBM modernization or follow-on programs, means that the U.S. does not have any large-scale defense or space SRM program in full-rate production for the first time in 50 years?

General CHILTON. Until the OSD/AT&L study is complete, it is premature to speculate on the extent of the impact to our industrial base and intellectual capital as the solid rocket motor industry adjusts to the Constellation Program cancellation and other significant program changes. We believe Secretary Carter's AT&L-led task force study on the SRM industrial base will inform our investment strategy to ensure we can meet the nation's strategic propulsion needs.

Mr. BISHOP. How does the Interior Department's recent decision to revoke uranium mining leases on public lands in the Western United States negatively impact the long-term strategic interests of the United States in maintaining a domestic supply of raw nuclear materials in its defense strategic stockpiles?

General CHILTON. Planning, analysis and forecasting of overall weapons related nuclear materials is provided by the National Nuclear Security Administration (NNSA). I am advised by NNSA that the recent Department of Interior decision to suspend issuing uranium mining leases on public lands in the Western U.S. for two years has no near-term impact on the domestic supply of raw materials needed to meet national defense needs. Any future Interior Department decision to withdraw

these or other lands for a longer period of time will need to be assessed for long-term impacts.

Mr. BISHOP. What is your estimate of the percentage of raw nuclear materials which will now have to be imported into the United States to meet national defense needs in the future because of the Interior Department's actions in revoking uranium mining leases on public lands in the Western United States?

General CHILTON. I am advised by the National Nuclear Security Administration (NNSA) that there will be no near-term change in the percent of raw nuclear materials imported into the U.S. to meet national defense needs. I understand the decision does not prohibit ongoing or future mining operations for valid pre-existing claims. Any future Interior Department decision to withdraw these or other lands for a longer period of time will need to be assessed for long-term impacts.